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A Single Case Study on the Ayurvedic Management of Cerebral Palsy

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ABSTRACT:

Cerebral palsy (CP) is considering as a non-progressive neuromotor disorder of cerebral origin. It includes heterogeneous clinical states of variable etiology and severity ranging from minor incapacitation to total handicap. In India 1.77% of the population has some form of disability. Spastic cerebral palsy is most common and incidence is 60% to 70% of all cerebral palsy case. It cannot be correlated with any single disease or condition in Ayurveda, as it is a multi-factorial disease with clinical features of a wide variation. It can be taken as *Vatavyadhi* as far as its etiology and symptoms are concerned. Here, an effort was made to treat a 5-year-old male child with spastic diplegic. Cerebral Palsy using multiple Ayurvedic treatment modalities. 3 Month oral medicine and *Pañcakarma* procedures resulted in better improvement in sign and symptom of cerebral palsy.

Keywords: Cerebral palsy, *vatavyadhi*, *panchakarma*

INTRODUCTION

Disabled children are of great concern to the family as well as the society. Cerebral palsy (CP) is the leading cause of chronic disability in children, making them physically and mentally handicapped and socially apart. Cerebral palsy is an umbrella term encompassing a group of non progressive, noncontagious condition that causes motor impairment by abnormalities in movement, posture and tone.¹

It is caused by any of prenatal, natal, and postnatal factors and eventual pathology is any type of injury to the developing brain.

The worldwide incidence of CP is approximately 2.5 cases per 1000 live births. For India, it is estimated around 3 cases per 1000 live births, but being a developing country, the actual figure may be much higher. Among all the types

of CP, spastic CP is the most common type, occurring in 70–80% of all cases.²

Prenatal causes-

1. TORCH infection in mother.
2. Placenta previa.
3. Obstructed labor.
4. Cerebral malformation
5. Pre eclampsia
6. Poor ANT care
7. **Perinatal causes:**
8. Prematurity
9. IUGR.
10. Hyper bilirubinemia
11. Birth asphyxia
12. LBW baby



13. Post-natal causes-

14. Head trauma
15. Infection like Meningitis, encephalitis
16. Frequent seizures.

Above all the 2 most common causes of CP are

1. Prematurity
2. Birth asphyxia

No effective treatment for the underlying brain damage has been formulated till today. All the sophisticated technology and highly expensive and complicated therapies of the medical research field have failed to find out a definite cure for the disease.

There is no one to one correlation found for CP in Ayurveda. While observing the etiology and clinical features, the predominance of *Vata* is obvious and put this disease entity nearer to *Vata* Predominant conditions or *Vata Vyadhi*. While considering pathophysiology and management of Spastic CP it can be taken as *Avarana Janya Vata Vyadhi (Kaphavrita Vata)*.³

CASE REPORT

5 year male child was brought to OPD. Of *Kaumarbhritya* being carried by his father, with the complaints of;

- Unable to walk,
- Unable to stand without support
- Inability in getting up from lying down or sitting position.
- Weakness in lower limb

Patient has been suffering from above complaints since 3 years. According to child's mother, he was her first child delivered through LSCS, full term, having insignificant antenatal, natal history. Child didn't attain all developmental milestones as per chronological age. He was diagnosed with cerebral palsy a year back by modern pediatricians.

Dashavidha Pariksha

- *Prakriti* : *VataKapha*
- *Vikriti* : *kapha avritia vata vyadhi*
- *Sara* : *Twak*
- *Samhanana* : *Madhyama*
- *Desha* : *Jangala*
- *Satmya* : *Sarva Rasa*
- *Satva* : *Madhyama*
- *Ahara Shakti*: *Madhyama*
- *Vyayama Shakti* : *Avara*
- *Vayah* : *Kumara*

Treatment Procedure : Table 1, Table 2

DISCUSSION:

Role of *deepana Pachana* :

The concept of *Ama* and *Agni* is exclusive in *Ayurveda*, it finds a place in the genesis of almost all diseases and their management. *Ama* associated itself with *Vata*, moves quickly to the different seats of *Kapha* in the body and block the channels. Properties of *Ama* include *Apakti* (indigestion), *Gaurava* (Heaviness), *Bala Bhransha* (weakness), *Mala Sanga* (Constipation), *Strotorodha* (Blockage of the channels) and *Anila- Mudhta* (Stiffness).⁴ *Deepana* (appetizer) *Dravya* (drugs) which stimulate the appetite by correction of *Mandaagni* (low digestive fire). All drugs of *Deepana* having *Katu Rasa*, (Pungent taste) *Katu Vipaka* (post-digestive taste) & *Usna Virya* (active principle) for example *Chitraka* (*Plumbago zeylanicum*), *Maricha* (*Piper nigrum*), *Pippali* (*Piper longum*), *Pippalimoola* (root of *Piper longum*), and *Jeeraka*, (*Cuminum cyminum*) so all drugs are helpful to enhance *Agni* & Ignite *Vata Dosha*.

Pachana (digestant) *Dravya* for example *Hingu*, (*Ferula foetida*) *Guduchi* (*Tinospora cordifolia*), *Nagkeshar* (*Mesua ferrea*) *Musta* (*Cyperus rotundus*) & *Ajmoda* (*Trachyspermum roxburghianum*) having *Katu-Tikta Rasa*, *Ushana Virya* (active principle), *Katu Vipaka* (bio transformation) are stimulate peristalsis of intestine, increased local blood supply, increase secretion of digestive enzymes and increase absorption of nutrients.⁵ *Deepana* and *Pachana* drugs prepared the body for *Panchakarma* procedure by remove the *Srotorodha* (opening of channel) through digestion of *Ama*.

Role of *Udwartana* :

Rookshana procedure (dryness inducing procedure) like *Udwartana* reduces the spasticity in CP patients and it is suitable in '*Amavastha*' (accumulation of waste materials inside the body) or '*Kapha aadhikya*' (predominance of *Kapha dosha*) . *Udwartana* done with powders of medicines it brings the *Rukshana* at the level of superficial *Dhadhus* (tissues) especially at the level of *Twak*, *Raktha*, *Mamsa* and *Meda* (skin, blood, muscle and fat) *Udwartana* brings lightness in body, improves appetite and relieves pain. After attaining *Niraamavastha* by *udwartana*, *snehana* and *swedana* etc procedures can be started. *Udwartana* helps in reduction of vitiated *kapha* by its dryness-inducing and blockage-removing properties. Once *aavarana* (blockage) is removed, vitiated *vata* can be pacified by further treatment. *Udwartana* opens the minute channels and improves blood as well as lymphatic circulation.⁶

Role of Abhyanga :

Abhyanga involves cutaneous manipulation and it is considered as one of the prime procedures for mitigating *vata*. Primarily it acts by two mechanisms i.e., local and central. The local mechanisms include cutaneous stimulation causing the arterioles to dilate and thereby achieving more circulation. It also assists venous and lymphatic drains. This state of hyper circulation also enhances the trans-dermal drug absorption and assimilation. Massage improves blood supply to muscles, relieves muscular fatigue and reduces stiffness.⁷ Massage stimulates sensory nerve endings of the skin and gives abundant sensory inputs to the cortical and other centers in central nervous system. Abhyanga procedure is the mechanical stimulation more precisely the pressure application during massage. Pressure application done in proper way can help in reduction of motor neuron hyper-excitability by reducing the alpha motor neuron activity. Abhyanga is *Kaphavatahara*, Pushti (health promoting) and *Ayurvedhaka* (increases life span). Abhyanga nourishes the superficial and deep muscles and make the muscles strong and joints stable. Abhyanga induce pleasantness and calming effects. The strokes used in Abhyanga like kneading; friction etc improves local circulation. The procedure which causes unctuousness, fluidity, softness, and moistness in the body is *snehana* therapy. Abhyanga and SSPS both cumulatively help in reduction of spasticity and facilitate free movement of joint preventing from deformities and contractures in CP cases.¹⁷ Massage of the entire body with medicated oils like *Bala tailam*, *Narayana tailam*, *Prasarini tailam*, and *Mashadi tailam* are very effective. Massage involving concomitant stretching maneuvers is very beneficial in patients with spastic diplegia resulting from CP.⁸

Role of Shali sastika pinda sweda :

Shashtika rice (*Oryza sativa* Linn) is *Snigdha* (unctuous), *Bala vardhana* (tonic) and *Deha dardhyakrita* (makes the body strong). The heat provided by bolus of *Shashtika shali* dipped in *Balamula kwatha* (roots of *Sida cordifolia*) with *Godugdha* increases the blood flow locally, relieve muscle spasm, increase tendon extensibility and provides pain relief. *Bala* absorbed locally provides nourishment to muscular tissue and prevents from emaciation. Combined effect of Abhyanga and with Physiotherapy helps to reduce spasticity, facilitate the free movement of the joints and to prevent development of deformities and contractures in CP patients. It also provides nutrition to muscular tissue thereby preventing from atrophy and detrimental changes.⁹ SSPS is the efficacious procedure in chronic *vata* diseases.

SSPS is a *Brimhaniya Snehika* (tonic) sudation performed by bolus of boiled *Shashtika Shali* with *Vatahara Kwatha* (decoction of *vatahara* herbs) and milk. Thus SSPS is one of the most preferred method of *swedana* for CP patients where muscle wasting and weakness present.

Role of Matra vasti :

Vasti is the procedure where the medicines in suspension form are administered through rectum or genitourinary tract using *Vasti yantra* (enema can or specific apparatus). Among all therapeutic procedures, *vasti* the most appropriate remedial measure for *vata dosha*.

Sneha vasti improves overall nutrition. *Vasti* is having two actions, expelling the *Dosha* & nourishing the body as it is indicated in *Gambhiragata vata* (neurological conditions chronic and deep seated) also. Action of *Vasti* is related with the facilitation of excretion of morbid substances responsible for the disease process into the colon, from where they are evacuated.

Matra vasti is a sub type of *anuvasana vasti* in which oil or ghee is given by rectal route in a small quantity. When medicated oil reaches rectum and colon, presence of short chain fatty acids in oil allows direct diffusion of drugs from epithelial cells in to capillary blood villi showing its generalized effect.¹⁰

CONCLUSION

Various *sodhana* and *samana* procedures have proved their efficacy in the management of CP. *Udwartana* opens the minute channels and improves blood as well as lymphatic circulation. *Udwartana* is *kapha, vata hara* and removes *aavarana* or *srotorodha*. It provides a platform for further procedures like *Abhyanga*, *Swedana* and *Vasti*. *Sarvanga abhyanga*, *Baashpa* & *Naadi sweda* reduce spasticity (especially scissoring phenomenon), improves flexibility of joints, improves circulation and reduces pain. *Vasti* is the major treatment for CP and it improves gross as well as fine motor functions, provides nourishment, improves overall general condition and quality of life in children with CP. Internal medications like *kumarkalyan rasa* contain *swarnabhasma* capable of enhancing sensory motor functions along with cognitive function of brain and immunomodulation. *Arabindasavam* and *Aswagadharista* act as neuroprotective and antioxidant. *Tab. Asthiposhak* contains ingredients like *Kukutaanda twak bhasma*, *Asthishrukhalala* which does supplementation of deficient mineral iron and calcium. *Brihat chalgalyadi ghruta* does alleviation of *vata* and immunomodulation.

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Table 1 Shodhana Medications :

	Procedure	Drugs used	Duration
1.	<i>Deepana Pachana</i>	<i>Trikatu syrup</i>	5 days
2.	<i>Udvardana</i>	<i>Triphala churna</i>	7 days
3.	<i>Abhyanga</i>	<i>Bala aswaganda lakshadi taila</i>	7 days
4.	<i>Shali sastika pinda sweda</i>	<i>Shali rice ,Go dugdha,Bala kwatha</i>	14 days
5.	<i>Matra vasti</i>	<i>Dhanwantaram taila 20ml</i>	7 days

Table 2 Shamana Medications :

	Medicine	Dose	Duration	Anupana
1.	<i>Tab.Kumarkalyan ras</i>	62.5 mg (1/2tab)	20 days	Honey
2.	<i>Tab.Asthiposhak</i>	250mg (1/2tab)	20 days	Milk
3.	<i>Syp.Arabindasaba</i> + <i>Syp .Aswagandharista</i>	5ml each	20 days	Equal amount water
4.	<i>Bhrt Chagalyadi Ghrta</i>	2.5gm	20 days	Luke warm water



Fig 1. Unable to stand without support before treatment



Fig.2. Administration of matra basti



Fig 3. Able to stand and walk without support after treatment