



Ayurvedic management of cerebral palsy in children- case study.

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ABSTRACT-

Cerebral palsy is a diagnostic term used to describe a group of permanent disorders of movement and posture. It causes limitations in motor activities. It is a non-progressive disorder caused by an insult to the developing brain.^[1] CP is caused by a broad group of developmental, genetic, metabolic, ischemic, infectious, and other acquired aetiologies.^[2] Data from the centers for disease control and prevention indicate that the incidence is 3.6 per 1000 children Male: Female ratio is 1.4:1. In Ayurveda classics, there is no accurate correlation with CP. It can be considered as a *Vata-Vyadhi* as far as its etiology and symptomology are concerned. *Shodhana chikitsa* and *Shamana chikitsa* are two main therapeutic measures in *Vata-Vyadhi*. Various *Panchakarma* procedures like *Sarvanga Abhyanga* (Full body massage with medicated oil), *Nadi Sweda* (Localised Sudation), *Basti* (Oil and decoction enema), *Nasya* (intranasal drug administration), etc are found beneficial in the management of CP in children.^[3] The

case study of a 3-year-old male child with spastic CP is treated with multiple ayurvedic treatment modalities. The total period of treatment was 75 days and the result was assessed by progress in delayed milestone, Anthropometrical measurement, Modified Ashworth scale, muscle power grading, and Gross Motor Function Classification System (GMFCS) scale, etc.^[4] *Panchakarma* is the major treatment for CP and result indicated that patient improved in presenting condition by 30% to 40%. The ayurvedic treatment provides an improvement in gross motor and fine motor activities in children suffering from CP and thereby improving their quality of life and healthy living.

Keywords- *Panchakarma*, Cerebral palsy, Ayurveda, *Vata-Vyadhi*.

INTRODUCTION-

Cerebral palsy is non-progressive neuromotor disorder of cerebral origin.^[5] Are often accompanied by disturbance of sensation, perception, cognition,

communication, behavior as well as epilepsy and secondary musculoskeletal problems.^[6] CP is resulted from insult to developing brain. There are four types of cerebral palsy viz. Spastic CP, Extrapyramidal CP, Cerebellar CP and Mixed CP.^[7] Spastic quadriplegia is the most severe form of CP because of mark motor impairment of all extremities and high association with intellectual disability and seizures. Neurologic examination shows increase in muscle tone and spasticity in all extremities. There is no exact correlation found for CP in Ayurvedic literature. It can be considered as *Vata-Vyadhi*. Spastic cerebral palsy can be considered as *Avaranjanya Vata-Vyadhi* or *Kaphavritta Vata-Vyadhi*.^[8] There is an impairment of *Vata-Dosh* which is responsible for body movement. This may happen due to *Avarana* (Enveloping) of *Vata* by *Kapha Dosh*. Some conditions which overlap of symptoms of CP include *Phakka* (Kind of nutritional disorder), *Panguta* (Cripple), *Mookatva* (Speech or Language disorder), *Jadatva* (Mental disorder), *Sarvangaga Roga* (Quadraplegia), *Pakshaghata* (Hemiparesis), *Pakshawadha* (Hemiplegia) etc. under group of *Vata-Vyadhi*.^[9] CP can be considered as *Shiro-marmabhighataja Vata-vyadhi*, which may manifest itself in any of the Spastic CP, Extrapyramidal CP, Cerebellar CP or Mixed CP etc.

There is no effective treatment for the permanent brain damage has been invented till date in modern medicine. With the help of Ayurvedic medicine which are described in Ayurvedic classics can be effective in relieving the signs and symptoms and thus

reducing the disability in children with spastic CP.

In this case study Ayurvedic *Panchakarma* along with internal medication were undertaken to evaluate the effect of multiple ayurvedic treatment modalities in the management of CP.

CASE PRESENTATION-

A. Place of study- Paediatric ward, Government Ayurvedic College and Hospital, Vazirabad, Nanded.

B. Patient Consent- Written consent for publication on this case study had been obtained from the patient's parent.

C. Basic information of the patient-

- Age- 3 years
- Sex- Male
- Religion- Hindu
- Socioeconomic status- Middle class
- OPD No- 17204
- IPD No- 349

D. Chief complaints-

- Unable to stand without support
- Unable to walk without support
- Unable to talk (Disyllabic words)
- Unable to understood spoken words.
- Drooling of saliva
- Intellectually weak
- Hard stool
- Cold and cough (Recurrent episode)

E. History of present illness-

- A 3-year-old male child brought by his parents to Kaumarbhritya OPD of Government Ayurvedic

College and Hospital, Nanded. Having complaints of unable to stand and walk without support, unable to understand spoken words, intellectually weak etc. Initially treated at other private allopathic hospitals without any significant results. Hence at the age of 3 years they approached us for further management.

F. Birth history-

- At the time of delivery, age of mother was 36 years and she suffer from pregnancy induced hypertension (at 24 weeks of gestation).
- Baby was delivered by LSCS due to history of foetal distress.
- Baby did not cry immediately after birth having birth weight 4 kg.

G. Past history-

- H/O – Hypoxic Ischemic Encephalopathy (HIE Grade-2)
- H/O – 1) Febrile convulsion at 1.5 month of age, Medication taken for it only for 6 months. Last febrile convulsion on last year and hence patient was admitted for 3 days in PICU
- Aspiration Pneumonia – At the age of 3 months.

H. Family history-

- No specific history of illness to any family member.
- No H/O of Covid-19 infection to any family member or patient.
- H/O of consanguineous marriage of 3rd degree.

I. Drug history-

- Anticonvulsant therapy for 6 months.
- Physiotherapy.

J. Immunization history-

- Given as per government immunization schedule proper for age.

K. Developmental history-

Developmental milestone	Age
Neck holding	7 months
Sit with support	10 months
Sit without support	18 months
Stand with support	26 months
Stand without support	Not achieved yet
Walk without support	Not achieved yet

L. General examination-

- Respiratory system- Mild conducting sound present bilaterally.
- Cardiovascular system- S1 and S2 normal
- Per abdomen- Soft not tender
- Vitals are stable

M. Central nervous system examination-^[10]

- Posture – Decorticate posture
- Gait – Not established yet
- Mood – Irritable
- Level of consciousness – conscious
- Bulk of muscles- decreased in both upper extremities and lower extremities

- Tone- hypertonicity in all four limbs
- Deep tendon reflex

Upper limb	Right limb	Left limb
Bicep muscle	3+	3+
Triceps muscle	3+	3+

Lower limb	Right limb	Left limb
Knee	3+	3+
Ankle	2+	2+
Plantar (Babinski sign)	Positive	Positive

- Muscle power grade-

Upper limb	Right limb	Left limb
Shoulder	3+	3+
Elbow	3+	3+
Wrist	3+	3+

Lower limb	Right limb	Left limb
Hip	3+	3+
Knee	3+	3+
Ankle	3+	3+

N. Investigations-

- CT scan and MRI were taken to identify anatomical abnormality in the region. It suggests periventricular leukomalacia.

O. Diagnosis – Spastic quadriplegic cerebral palsy.

TREATMENT PROTOCOL – 75 days as given below;

- Total 3 courses of this 20 days schedule with 5 days interval in between.

- *Deepana and Pachana* for 5 days followed by 7 days *Snehahna, Swedana and Nasya* followed by 8 days *Yoga-Basti* along with *Snehana* and *Swedana*.

a) *Deepana-Pachana* for 5 days

- With Hingvashtaka churna- ½ tsf two times a day with ghee.
- Syrup Aamdoshantaka- 5 ml two times a day.

b) *Snehana* – Sarvanga abhyanga with Bala tail for 30 minutes.

- Abhyanga means massaging the whole body with dosha specific warm medicated oil.

c) *Swedana*- with Nadi sweda (Sudation).

- *Swedana* by steam of medicinal herbs by special type of instrument known as Nadi yantra called Nadi swedana.

d) *Nasya*- with Panchendriyawardhan tail, after *abhyanga* and *swedana*.

- Dose- 2 drops in each nostril.
- *Nasya* is procedure in which administration of medicine drops (oil or decoctions) through nasal cavity.
- Followed by 8 days *Yoga basti* with *snehana* and *swedana*.

e) *Yoga basti* –

- Total duration of 8 days in which 3 sets of alternate *Anuvasana basti* and *Ashtapana basti* followed by 2 *Anuvasana basti* were given.

- *Anuvasana basti* was given with 30 ml *Til taila*.
 - *Asthapana basti* was given with 120 ml *Mustadiyapan basti*.
- f) Internal medicine- throughout whole treatment schedule.
- Bramhi grita 5ml with 1 Bramhi vati – twice a day.

- *Jivhagharshan* with – Vacha churna + Akkalkara churna.
- Saraswatarishta – 10 ml at bed time.
- Sitopaladi churna- ½ tsf with honey twice a day for 10 days

ASSESSMENT – [11]

Classification criteria	Before treatment	After treatment
GMFCS classification	Level III - Patient walk with parent's assistance	Level II - Patient able to walk indoor with minimal parent's assistance
Modified Ashworth scale	(2) - More marked increase in muscle tone through most of the range of motion but lower limbs easily move	(1+) Minimal resistance throughout the less than half of the range of motion.
Muscle power grading	Patient can move his limbs against the gravity	Patient is able to move his limbs with partial resistance.

DISCUSSION-

Cerebral palsy is a motor disorder due to non-progressive pathology of cerebral origin. In Ayurveda *Vata-Vyadhi* correlates to cerebral palsy. Treatment of *Vata-Vyadhi* is most suitable for management of CP, hence adopted to treat this case. Main treatment in *Vata-Vyadhi* is *Panchakarma* like *Snehana*, *Swedana* and *Basti*. *Vata dosha* responsible for movement of body which resides in skin, *Abhyanga* (Body massage) by oil provide nourishment due to its *snigdha* and *mruduguna* which reduce the increased muscle tone, improves blood supply to muscle hence improve muscle bulk and muscle power. Ashworth scale shows 30% to 40% improvement in spasticity. *Swedana* (Sudation) after *Abhyanga* (Massage) helps to remove *Avarana* (Obstruction of normal movement). *Swedanais* very helpful in

relieving muscle spasticity, improves joint movement and range of motion.

Abhyanga and *Swedana* caused *doshagati* from *Shakha* to *Koshtha* and *Basti* remove *Koshthagatadosha*. Hence *Basti* acts like *Shodhana karma* in *Vata-Vyadhi*. Thus, *Vata* comes to normalcy and hence developmental milestone were achieved.

Generalised improvement in gross motor function and anthropometrical measurement is due to *Basti* karma which is *Pradhan karma* to manage the *Vata dosha* in treatment of cerebral palsy.

CONCLUSION-

As the Cerebral palsy is non curable disease but quality of life can be improved and overall dependency can be minimized in early age by using Ayurvedic treatment modalities. *Panchakarma* with internal

Ayurvedic medicine are effective in improving growth and development and reducing spasticity of all body parts.

The selected Ayurvedic treatment protocol is effective in relieving 30% to 40% of signs and symptoms of patient and hence improving clinical condition of patient with spastic cerebral palsy.

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