



## **Case Report on Cerebral Palsy- with Ayurvedic Treatment Protocol**

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### **Authors' contributions**

*This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.*

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**Case Study**

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### **ABSTRACT**

Cerebral palsy is a non-progressive disorder, which arising in early stages of development of child. There are many etiology factors like antenatal, natal and postnatal factors responsible for causing cerebral palsy but exact cause is still unknown. Spasticity is the main feature of cerebral palsy(). Classification of CP is too broad on the basis of physiological and topographic etc. Symptoms of spastic cerebral palsy can be corelated with *Jadhata* in Ayurveda. In *Jadhata*, there is tightness of muscles occurs. Improvement can be got in children with ayurvedic treatment. Aim- To improve the quality of life of child suffered from spastic CP. Place and duration of study- Study was done in Parul Ayurved Hospital, Vadodara, Gujarat. Method- In this case study, *Samavardhan ghrta()* orally, *snehana()* with *bala taila()* and *svedan ()* with *dashmmola kwath ()* was given to child for 31 days. Results- mild improvement in spasticity and achievement of milestones have observed. Patient got discharged from IPD of hospital due to COVID 19 pandemic. Conclusion- Hence, through Ayurveda treatment, improvement in symptoms of spastic cerebral palsy can achieve and quality of life of child can increase spontaneously.

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## 1. INTRODUCTION

Cerebral palsy is a common cause of childhood disability. It is a group of non-progressive but often changing motor impairment syndromes secondary to lesions or anomalies of brain arising in early stages of development [1]. There are many etiologic factors responsible for CP viz. antenatal, natal and postnatal in which preterm birth and hypoxic condition at the time of delivery are the major cause of CP [2]. CP is classified on the basis of physiologic as spastic, dyskinetic, ataxic, hypotonic, mixed etc. and topographic as quadriplegia, hemiplegia, diplegia, monoplegia etc. [3] Children suffering from cerebral palsy make their parents life miserable as they can't do daily requirement work properly and walk. Prevalence rate of CP as CDC is 1-4 per 1000 live births [4,5]. In spastic cerebral palsy, there is tightness of muscles. In Ayurveda, spasticity can be correlated with *Jadhata*, which have predominant *lakshanas* of *vata dosha*. *Stambha*, *Sthaimiyam*, *apatavam*, and *murkha* are the meanings of *jadhata* [6].

## 2. CASE REPORT

### 2.1 Chief Complaints

A 2-year male child having known case of spastic cerebral palsy come to OPD of Parul Institute of Ayurveda, Vadodara with complaint of delayed developmental milestones, not able to hold his neck, can't sit without support and walk with or without support associated with tightness of muscles in lower extremities and weight loss.

#### 2.1.1 Past history

Patient had admitted in NICU after the birth for 1month. After that when parents noticed about his delayed milestones like not attain social smile and sitting without support, they admitted the patient in MP hospital for 2 month and taken allopathic treatment including some medicines and physiotherapy. Child was admitted due to appearance of seizure (2times) for 10 secs in local hospital for 4days and second time for 3days at the age of 9months and 10 months. Patient had taken speech therapy, physiotherapy for 4 months at the age of 1.5 years but not got better improvement. Patient did not take any ayurvedic treatment before now.

#### 2.1.2 Antenatal history

Age of mother was 31 years at the time of delivery. Mother was diagnosed with hypo-

thyroidism and taking 25 mg thyroxin medicine. No history of seizures, stress and any other complications.

#### 2.1.3 Natal history

Child was delivered normally through vagina with 38week gestation period. Child was gone to hypoxic condition due to obstructed labor. Baby was cried delayed not soon after the birth. Weight of baby was 2.5 kg after birth.

#### 2.1.4 Postnatal history

Child was noticed respiratory distress at the time of birth and shifted to NICU and admitted for 1month. Expressed milk was given to baby.

#### 2.1.5 Breastfeeding

Baby start breastfeeding after one month and taken exclusive breastfeeding for 4months and after that milk formula was given to baby till now.

#### 2.1.6 Developmental history

All milestones are delayed- child can't able to hold his neck, can't sit without support and can't walk with or without support. Social smile was absent, not attained speech and language milestones, not able to speak one or two words.

#### 2.1.7 Personal history

Diet- taken formula milk  
Appetite- good  
Bowel- normal  
Sleep- sound  
Anthropometry-  
Head circumference- 43.5 cm  
Chest circumference- 47cm  
MAC- 16cm  
Height- 80.1cm  
Weight- 9 kg

#### 2.1.8 General examination

Head- Not able to hold his neck  
Face- dull  
No lymphadenopathy  
No oedema  
Color- pinkish  
Gait- spastic (scissor- while hold baby on standing position)

### 2.1.9 Systemic examination

Respiratory examination- AEBE chest clear, no wheezing, crepitations and other abnormal sound heard.

Gastrointestinal tract- no scar and any abnormal growth was not observed on abdomen, umbilicus was normal on inspection. Abdomen was soft, non-tender, no hepatosplenomegaly was found on palpable.

### 2.1.10 Treatment protocol

*Panchkarma* or *shodhan* therapy is best for diseases removal from roots but it's difficult to perform *shodhan karma* in younger children. For younger children *Shaman chikitsa* prefers as it is less stressful. Spastic cerebral palsy is a disorder with *vaata* predominancy *prakopa* and it require *vata shamak chikitsa* and *brihan rasayan chikitsa* due to muscle tightness and effect on brain for improvement in milestones.

Treatment was done on the basis of *vaata vikara* along with *panchkarma* therapies for 31 days.

*Abhyanga* with *bala taila* for 10 mins daily once a day.

*Naadhi sweda* with *dashmoola kwath* 10 mins daily after *abhyanga*.

*Abhyanaga* and *swedan* was given 31 days daily.

Orally *samvardhan ghrita* was given twice a day with milk.

**Table 1. Treatment protocol**

Treatment	Duration	Anupaan
<i>Samvardhan ghrita</i>	Twice a day	Luke warm milk
<i>Abhyanaga</i> with <i>bala taila</i>	Once a day	
<i>Swedan</i> with <i>dashmoola kwath</i>	Once a day	

## 3. RESULTS

In first 14days, no improvement was observed in patient. On 15<sup>th</sup> day of treatment, child's mother observed that his baby smiles for first time from the birth today. Baby started mild social smiling after the treatment and got strength in feet. Child was not able to stood even with support. After

treatment child was able to stood with support for 30-35 secs. Thus, ayurvedic treatment given to patient improved the spasticity and given strength to his muscles and bones. After 31 days, patient was got discharged due to COVID 19 pandemic.

**Table 2. Ingredients of *samvardhan ghrita*-[7]**

Drug	Latin name
<i>Khadira</i>	<i>Acasia catechu</i> Willd.
<i>Prishniparni</i>	<i>Pseudarthria viscida</i> Desv.
<i>Bala</i>	<i>Sida cordifolia</i> Linn.
<i>Atibala</i>	<i>Abutilon indicum</i> Linn.
<i>Syandana</i>	<i>Ougenia dalbergiodes</i> Benth.
<i>Kebuka</i>	<i>Costus speciosus</i> Smith.
Milk	
<i>Ghrita</i>	

## 4. DISCUSSION

*Samvardhan ghrita* is mentioned in Kashyap Samhita- Lehyadhya that it improved the impaired conditions like *pangu*, *muka*, *ashruti* and *jadatava*. And promoting growth, strength and development in children. Word *samvardha* itself means growth and development without obstacle in any disease [7]. *Samvardhan ghrita* have *Madhur lavan rasa* and *Madhur vipaka* and have *vatashamak* properties with its *snigdha guna* and *tridoshshamak* property. Hence, it helped to achieved the milestones like neck holding and social smile.

*Abhyanga* and *swedan* both have *vaatashamak* properties, hence *prakupit vaata* shifted to normalize stage. Sneha absorbs easily through hair follicles and dissolves by *bhrajaka pitta* present on skin [8]. *Bala taila* gives strength and power to muscles and improve muscle bulk [9].

*Bala taila* have properties of *vatashamak*, *brihan*, *shothahara* and *nadhi balya* [10]. It decreased the vitiated *vata* and patient got relief in stiffness of muscles as *vata* is main factor responsible for pathogenesis of cerebral palsy.

*Abhyang* and *swedan* helped to relieved from *jadhata* in muscles and child started to stood with support for long time interval. Due to *vaatahara* properties, child started to achieved the delayed milestones as it works on nervous system [11].

Due to COVID 19 pandemic, patient got discharged from hospital, if *snehan* and *swedan* can done for longer period of time than improvement in main features of CP like stiffness

of muscles, reduction in tendon reflexes and hypertonia can be observed.

## 5. CONCLUSION

Mild improvement was shown in child suffered from spastic cerebral palsy by Ayurvedic treatment protocol and *panchkarma* therapies and improve the quality of life of child.

## DISCLAIMER

The products used for this research are commonly and predominantly use products in our area of research and country. There is absolutely no conflict of interest between the authors and producers of the products because we do not intend to use these products as an avenue for any litigation but for the advancement of knowledge. Also, the research was not funded by the producing company rather it was funded by personal efforts of the authors.

## SIGNIFICANCE OF THE STUDY

The study highlights the efficacy of "Samavardhan ghrita" which is an ancient tradition, used in some parts of India. This ancient concept should be carefully evaluated in the light of modern medical science and can be utilized partially if found suitable.

## CONSENT

As per international standard or university standard, parent's consent has been collected and preserved by the authors.

## ETHICAL APPROVAL

As per international standard or university standard written ethical approval has been collected and preserved by the author(s).

## COMPETING INTERESTS

Authors have declared that no competing interests exist.

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