



## Case Study

### AYURVEDIC APPROACH IN THE MANAGEMENT OF CEREBRAL PALSY- A CASE STUDY

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**KEYWORDS:** Cerebral Palsy, Panchakarma, Pratimarsha Nasya, Yoga Basti.

#### ABSTRACT

Cerebral Palsy is the most common form of childhood disability. It is a group of non progressive, non contagious condition that causes motor impairment syndrome characterized by abnormalities of movement, muscle control, muscle co-ordination, muscle tone, reflex, posture and balance. It arises from an injury to the brain or abnormal development during the brain's formation.

Ayurveda mentioned two main therapeutic measures i.e. *Shodhana* and *Shamana*. *Panchakarma* (*Shodhana Chikitsa*) is the best available treatment for the removal of disease from its root and also for better outcome. In this present study, child suffering from Spastic Hemiplegic type of CP treated by *Panchakarma* (*Shodhana*) as well as *Shamana Chikitsa*. 80 days of treatment protocol includes 3 course of *Panchakarma* therapy at the interval of 10 days along with internal medication (*Medhya Churna*). Each course includes 5 days *Udavartana*, 7 days *Sarvanga Abhyanga* (*Bala Taila*) and *Nadi Swedana* along with *Pratimarsha Nasya* (*Panchabhautika taila*) and *Yoga Basti*.

The result showed reduced spasticity of right upper and lower limbs, proper neck holding achieved, child started sitting without support, standing and walking with support as well as general health condition improved.

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#### INTRODUCTION

Cerebral refers to the cerebrum – a major portion of human brain, which is the affected area of the brain in this disease condition<sup>[1]</sup> and Palsy means paralysis which refers to weakness or lack of muscle control.<sup>[2]</sup> Thus CP is defined as a disorder of movement and posture due to non-progressive damage to the developing brain.

Cerebral palsy (CP) is the most common cause of motor disabilities in childhood affecting function and development. Population based studies from around the world report prevalence estimates of CP ranging from 2-3 per 1000 live births.<sup>[3]</sup> The Surveillance of Cerebral Palsy in Europe (SCPE) reports Male to Female ratio is 1.33:1.<sup>[4]</sup> It is estimated that people with visual, communication and loco-motor disabilities number at least 14.56 million or 1.9% of the total population of India.

There are 4 subtype of CP mentioned in 'Swedish Classification' (SC) viz. spastic, ataxic, dyskinetic and mixed.<sup>[5]</sup> In this entire sub type, spastic CP accounts for major portion of 70% to 80%.

In a significant proportion of children with Cerebral Palsy, no obvious cause can be determined. In most cases of CP only risk factors can be identified. With modern diagnostic techniques a specific etiologic factors can be identified in not more than 50-75% of all CP cases. CP is caused by damage to the motor control centres of the developing brain and can occur during antenatal period (about 75 percent), during childbirth (about 5 %) or after birth (about 15 %) up to about age of three years. Many cases of CP are a result of a combination of prenatal, perinatal, and postnatal factors.

Cerebral Palsy has no complete cure in any science of Medicine. But, its treatment includes multiple alternatives i.e. Medication, Physiotherapy, Speech therapy, Occupational therapy and Surgery. Multisystem involvement in CP makes its management different than symptomatic treatment while treating it. Therefore multidisciplinary approach is desired for the management of CP. [6]

**AIM:** To find out an efficacy of *Pratimarsha Nasya* and *Yoga Basti* in the management of Cerebral Palsy.

#### MATERIAL METHOD

Place of the Study: I.P.G.T.&R.A., IPD block, Paediatric ward, Jamnagar, Gujarat 361008

#### Case Report

Basic information of patient	
Name	X
Age/Sex	1 yr 8 months/F
Cast	Muslim
Socioeconomically	Middle class
Length	74 cm
Weight	7 kg
OPD no.	PG18020038

#### Chief complaints

Patient hasn't proper neck control, can't sit and stand with support properly, can't speak (Global developmental delay), tightness of hands and legs (R>L), Drooling of saliva and constipation.

#### History of present illness

According to mother her daughter had some difficulty at the time of birth as she didn't cried soon after birth and also admitted in NICU for 1 day. After that her daughter not achieved neck holding or sitting, walking, speaking as compare to normal child. So, they went to hospital and did CT scan. Also physiotherapy was advised but patient was not co-operative and excessive crying it couldn't continue. Now, patient came for the Ayurvedic treatment.

**H/O past Illness:** Recurrent RTI

**Treatment History:** Nil

**Family history:** Consanguinity grade 3

Father's cousin brother had mental and physical disability

#### Birth history

**Antenatal:** Mother (21 yrs) having some mental stress from family environment. Mother also having H/O two abortions (1.5 months and 2.5 months) before this affected child.

**Natal:** Full term normal vaginal delivery at hospital, H/O prolonged labour and PROM. Baby was not

cried soon after birth (due to birth asphyxia). Birth weight was 2.5 kg.

**Post Natal:** Birth asphyxia, NICU admission for 24 hrs

Personal history	
Appetite	Poor
Sleep	Normal
Urine	9-12 times/24hrs
Bowel	1 time/3-5 days, hard in consistency, sometimes with bleeding

**Immunization history:** Complete up to age

**Growth and Developmental History:** Globally developmental delay

**Examination:** Vitals were normal. Cardiovascular system and Respiratory system were normal. Per abdomen examination revealed tightness of abdomen (s/o faecal lump).

#### Central Nervous System

Higher mental function:	
Level of consciousness	Conscious
Memory	-
<b>Speech:</b> not achieved	
<b>Gait</b>	Not able to walk
<b>Shape of head</b>	Microcephaly HC-40 cm
Motor System	
Bulk of Muscle	Decreased
Tone of muscle	Hypertonic
Symmetry	Asymmetry present between right and left limbs
Involuntary movement	Absent
<b>DTR</b>	Brisk

#### Ashtavidha Pariksha

<i>Nadi</i>	<i>Vata pradhana</i>
<i>Mutra</i>	Frequency -9-12 times/24hrs
	Color -Normal
	Other associated symptom - none
<i>Mala</i>	Frequency - 1 time/3-5 days
	Color - Abnormal
	Other associated symptom- Pain, Constipation
<i>Jihva</i>	Coated (s/o <i>Samata</i> )
<i>Shabda</i>	Feeble
<i>Sparsh</i>	<i>Anushnashita</i>
<i>Drishti</i>	Normal
<i>Akriti</i>	Built - <i>Krishna</i>

**Investigation:** CT SCAN OF Brain (22/11/2016) Atropic changes and cortical calcification seen in bilateral parietal lobes.

**Diagnosis:** Spastic hemiplegic Cerebral Palsy (affected side-right)

**Chikitsa Sutra (Treatment protocol):** First of all *Deepana Pachana* and *Vatanulomana* medicines. Then *Rukshana*, *Snehana*, *Swedana*, *Pratimarsha Nasya*, *Yoga Basti* along with *Medya* medicines.

**Treatment Protocol:** Total duration-80 days Started with 5 days *Udvardana* followed by 7 days *Sarvanga Abhyanga* and *Swedana* along with *Pratimarsha Nasya* and 8 days *Yoga Basti*. Total 3 courses of this 20 days schedule with 10 days interval in between.

**Udvardana:** With *Yava* (Barley) and *Kulattha Churna* (Horse gram powder) [7] in same proportion for 20 minutes (5 days).

**Abhyanga:** With *Bala Taila*[8] for 20 minutes followed by sudation for 5 minutes (7 days)

**Pratimarsha Nasya:** With *Panchendriyavivardhana Taila*[9] after *Abhyanga* and *Swedana* (7 days) Dose: 2 Bindu (drop).

**Aasthpana Basti:** *Madhutailika Basti*[10], Dose: 48 ml, *Kaal:* *Abhakta* (In the morning).

**Anuvasana Basti:** [11] *Bala Taila*, Dose: 12 ml, *Kaal:* *Pashchatbhakta* (After lunch).

**Internal Medicine:** *Medhya Churna* (*Anubhoota Yoga*) with honey throughout whole treatment schedule, Dose: 1.5 gm/day into 2 divided doses. [12]

**Probable pathophysiology and its management**

<b>Samprapti Ghataka</b>	• <b>Sampraptivighatana</b>
<i>Dosha- Vata Pradhana Tridosha</i>	• <i>Basti Vataharanam Shreshtha</i>
<i>Dushya- Asthi, Sandhi, Snayu, Kandara</i>	• <i>Sarvanga Abhyanga</i> (whole body massage) and <i>Swedana</i> (sudation)
<i>Srotasa- Majjavaha</i> (Brain)	• <i>Medhya drugs</i> and <i>Pratimarsha Nasya</i>
<i>Srotodusti - Sanga</i>	• <i>Srotoshodhana</i> by <i>Asthpana Basti</i>
<i>Agni- Manda</i>	• <i>Udvardana</i> followed by <i>Deepana Pachaka</i> drugs
<i>Rogamarga - Madhyama</i>	• <i>Basti</i> is best <i>Chikitsa</i> for <i>Madhyama Rogamargajanya Vyadhi</i>
<i>Udbhavasthana- Pakvashaya</i>	• <i>Pakwashaya</i> is the seat of <i>Vata Dosha</i> . <i>Basti</i> is very helpful in pacifying <i>Vata</i> .
<i>Vyaktisthana- Sarvanga Sharira</i>	• <i>Sarvanga Abhyanga</i> (whole body massage) and <i>Swedana</i> (sudation), <i>Pratimarsha Nasya</i> and <i>Yoga Basti</i>
<i>Sadhyasadyata- Yapya</i>	•Long duration (80 days) treatment

**DISCUSSION**

Assessment done under the objective criteria viz. CDC grading for motor mile stones (1-6 grades), Fine motor and Language function (1-6 grades), Personal and social (1-7 grades), Ashworth Scale for muscle tone (0-5 grades) and MRC Scale (Medical Research Council) for muscle power (0-5 grades).

This study shown 50% improvement in Neck holding, 33% improvement in sitting and standing according to CDC grading for milestones. Fine motor has shown 66.67%, Language, Personal

and social milestone has shown 16.67% improvement. Here, *Pachendriyavivardhana Taila Nasya* (Nasal drops) given which directly effects on the brain. As the name of oil suggested that it acts over all the five *Indriyas* and all these *Indriyas* having connection with the brain. *Nasa* (nose) is the portal route<sup>[13]</sup> for administration of oil, this stimulates the olfactory nerve which is connected with the higher centres of brain which are damaged in CP. The lipid content of oil absorbed through blood brain barrier and reached to the damaged site

and stimulates the nerves, increase the blood supply that ultimately leads to nervous sensation in different parts of the body. Thus here we can say that Neck holding which is much delayed milestone is achieved by the *Nasya* very fast. Also *Nasya* helps in Fine motor and Language function.

Improvement in growth can assess by the increased anthropometric parameters. It might be achieved due to nourishment of *Rasadi Dhatu*. *Udvardana* (massage with dry powder) have qualities like *Ruksha*, *Kaphahara* helps to open up minute channels which improve blood and lymphatic circulation and also do some nerve stimulation. Massage with oil nourishes skin by its *Mridu*, *Snigdha*, *Guru*, *Picchila Guna*. *Swedana* (Sudation) pacifies the *Vayu*, which causes rigidity and contracture due to its *Ruksha* and *Shita Guna* and *Swedana* removes it by its *Ushna Guna*.

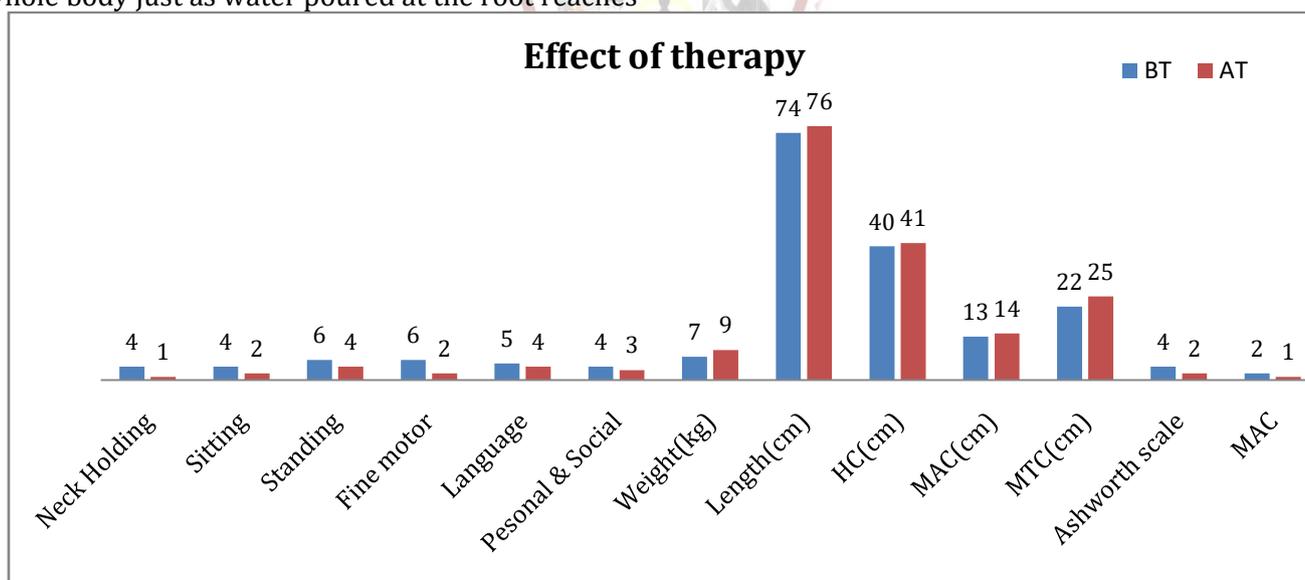
Ashworth scale shows 40% improvement in spasticity. Initially minute channels opened by *Udvardana* which further helps to absorb more oil in the process of massage by the skin into the body. *Snehana* therapy (*Abhyanga*) is useful for promoting strength, nourishment (bulk), vitality (energy) to the deficient part and particularly required areas of the body. *Basti* has capacity to pacify and regulate the force of *Vata Dosha*. Medicines given in the form of *Basti* spreads to the whole body just as water poured at the root reaches

all the parts of the tree through micro and macro channels' or it can be said that *Veerya* of the ingredients used in the *Basti* gets absorbed and then through general circulation reaches at the site of lesion and relieves the disease. It is proved that there is a connection between enteric nervous system and central nervous system. So, *Basti* also has effect on CNS.

Manual ability classification shows 20% improvement due to reduced spasticity and increased ROM by massage, sudation and *Basti* therapy.

## CONCLUSION

In this study, *Nasya Karma* and internal medicine (*Medhya Rasayana*) showed the action on the brain and *Basti Karma* acts on whole body function. So, this combine therapy showed 15-20% total effect of therapy. As this disorder is incurable, if we are able to make small improvements in an earlier age, it will reflect as a major benefit in later age in the form of developing skills. Previously, it was believed that neurons do not repair or rejuvenate after any injury, but the new concept of neuroplasticity says that CNS have the ability to repair their neurons by axonal sprouting to take over the function of damaged neurons. So to conclude we can say that Ayurveda treatment surely improves the QOL of CP children.



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