



**EFFICACY OF PANCHKARMA THERAPY AND AYURVEDIC MEDICINE IN THE
MANAGEMENT OF QUADRAPLEGIC CEREBRAL PALSY IN CHILDREN – A CASE
STUDY**

Dr. Lowkesh Chandravanshi^{*1}, Aparna Singh² and Akhilesh Sahu³

¹Assistant Professor, Department of Kaumarabhritya, Rajiv-Lochan Ayurvedic College Chandkhuri, Durg (Chhattisgarh).

²Asst. Professor, Dept. of Sharir Kriya, Rajiv Lochan Ayurveda Medical College and Hospital Durg, Chhattisgarh.

³Asst. Professor, Dept. of Rasa Shastra & Bhaisjya Kalpana, Rajiv Lochan Ayurveda Medical College and Hospital Durg, Chhattisgarh.

***Corresponding Author: Dr. Lowkesh Chandravanshi**

Assistant Professor, Department of Kaumarabhritya, Rajiv-Lochan Ayurvedic College Chandkhuri, Durg (Chhattisgarh).

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ABSTRACT

Quadriplegic cerebral palsy in children is common, when mother have any antenatal complication like torch infection, pregnancy induced hypertension etc. This condition may affect directly the brain and his neurons. It is achieved by multifactorial approach of Ayurveda that includes *shaman*, *sanshodhan*, *rasayan chikitsa*, *sattvavajaya chikitsa*. **Aim & Objective:** To access the efficacy of *Panchakarma* therapy and Ayurvedic medicine in the management of quadriplegic cerebral palsy **Setting:** IPD of Balroga, Rajiv-lochan Ayurvedic medical college & Hospital Chandkhuri, Durg (Chhattisgarh) **Method:** Panchakarma was done with oral ayurveda medicines. Assessment was done before and after shodhana and shamana treatment with 30 days follow-up **Result:** *Panchakarma* treatment and Ayurvedic medicine is effective in the management of Quadraplegic cerebral palsy and to improve the quality of life of the affected child.

KEYWORDS: Quadriplegic cerebral palsy, Ayurvedic medicine, *Udavartana*, *Abhayang*, *Chaturbhadra kalpa basti*, *Shastik-shali panda sweda*.

INTRODUCTION

Cerebral palsy is defined as a non progressive neuromotor disorder of cerebral origin.^[1] (cerebral palsy (cp) is a diagnostic term used to describe a group of motor syndrome resulting from disorders of early brain development.^[2] Although it has historically been considered a static encephalopathy.^[3] Cerebral palsy may result from mal-development and disorderly anatomic organization of the brain, perinatal hypoxia, birth trauma, acid base imbalance, indirect hyper-bilirubinemia, metabolic disturbances and intrauterine or acquired infection.^[4] cerebral palsy is the most common and costly form of chronic motor disability that begins childhood with a prevalence of 2/1000. It is also commonly associated with a spectrum of developmental disabilities, including mental retardation, epilepsy, visual abilities, speech, cognitive and behavioral abnormalities. The motor handicap may be least of the child. Quadriplegia is more common in term babies, and exhibits severe damage including opisthotonic posture, pseudobulbar palsy, feeding difficulties. In Ayurveda, quadriplegic cerebral palsy is compare with *bala pakshaghat*. According to *Acharya kashyapa*, *phakka*

roga can compare with cerebral palsy, specially with *vyadhij phakka*.^[5] We can also compare cerebral palsy with *skanda graha*, which is describe in *Sushruta samhita*,^[6] and *Astanga samgraha*.^[7]

CASE REPORT

A 10 year aged male patient was brought to Rajiv-lochan Ayurvedic college & Hospital Chandkhuri, durg (Chhattisgarh) with complaints of unable to stand and walk without support, associated with lack of strength in upper limbs.

BRIEF HISTORY

Patient was not able to stand and walk without support and also not able to do his daily routine works, passed stool and urine on bed. Patient had 1st episode of convulsion developed at the age of 2th days, for the same complain patient admitted to N.I.C.U for 15 days. At the age of 8th month mother was observed that child was not able to hold his neck, so they consulted to nearby hospital, Doctor advised physiotherapy for 1 month, but patient had no relief then mother observed at the age of 3 year that patient was not able to seat without support,

they again consulted to other hospital. Doctor advised him some calcium and vitamin supplement with physiotherapy for 6 month, in this time they consulted to many doctors but they didn't found any improvement.

Past history: History of convulsion at the age of 2nd day and 8th year of life.

All the developmental mile stones delayed appropriate for the age, administered with immunization scheduled as per the age. For the same complain, they brought the child to hospital.

Antenatal History

Age of mother at the time of conception was 29 years and the father was 34 years. The mother took regular antenatal checkups and took medicine on time. Mother had complained of pregnancy induced hypertension. No

history of any kind of infections, diabetes, or seizures was reported.

Natal History

Mother had complained of pregnancy induced hypertension, so emergency LSCS was indicated because of fetal distress at 32th week and 10 days of gestation age. He cried after stimulation, and had a birth weight of 2.1kg.

Postnatal History

He had complain of convulsion at the age of 2nd day, Admitted in NICU for 15 days.

Family History: Grandfather has history of convulsion, other family member said to be normal.

Developmental History- All milestones are attained Delayed.

S. N.	Gross motor	Fine motor	Language	Social
1.	Neck holding (2 year 4 month)	Bidextrous reach to object (18 month)	Cooing sound (6 month)	Social smile (5 month)
2.	Sitting with support (4 year)	Unidextrous (4 year)	Monosyllables (6 year)	Recognize to mother (10 month)
3.	Sitting without support (6 year)	Immature pincer grasp (6 year)	Bisyllables (8 year)	Laugh a lot (16 month)
4.	Stand with support (8 year)	Mature pincer grasp (8 year but not completely developed)	Tell a sentence (Absent)+ slurred speech	Playing with friends (7 year)

Medical History: Antiepileptic drug, calcium supplement, Vitamin supplements, physiotherapy.

Immunization History: Given as per Schedule

Dietic History: Exclusive breast feeding was done upto to age of 4 month, weaning began with boiled potato, fruit juice, banana etc.

Personal History

Appetite –Good
Bowel – Twice/day
Micturition –Normal, 3-4 time/day
Sleep –Normal

On Examination

General examination

Consciousness- conscious	Lymphadenopathy - absent
Icterus-absent	Cyanosis-absent
Clubbing-absent	Gait-scissoring gait
Pallor-absent	Eye-squint eye

Vital sign

Blood pressure- 100/60mmhg
Respiratory rate: 21/min
Heart rate - 92/min
Temperature -98.4°F

Respiratory system: Chest bi- symmetrical, no added sound RR- 21/min

General Examination

General Comment–Alert, active, well nourished child with normal sensorium.

Vital signs

HR –92/min RR –21/min Temp.98.4°F

Anthropometry

1.	Head circumference	49 cm.
2.	Chest circumference	76 cm
3.	Mid arm circumference (both)	27cm
4.	Mid thigh circumference (both)	46cm
5.	Height	145cm
6.	Weight	34kg

Cardio-vascular system: S1S2 Heard, No murmurs, HR-92/min

Per-abdomen: Soft, no any prominent veins, no any oraganomegaly

Central nervous System

Higher mental functions: patient conscious, slurred speech, memory- intact, hallucination and delusion-absent.

Cranial nerves: on the basis of examination

Optic nerve, trigeminal nerve, oculomotor, facial nerve are affected.

Muscle power

Lower limb- 2/5 and Upper limb- 3/5

Gait- scissoring attended Muscle tone is hypertonic, ankle clonus- present, babinski sign- present Sensation-normal, hearing-normal, language- slurred speech, co-ordination-normal, Signs of Meningeal Irritation –Nil, pain – absent, rigidity- led pipe rigidity present, knee jerk and ankle jerk both are exaggerated, Spasticity –present.

Investigations**MRI****Done on 5-10-16**

MRI shows occipital cortical atrophy and partial agenesis of corpus callosum

Septate leukomalacia in the left middle cerebral region

EEG**Done on- 30-7-2013**

Clinical correlation- epileptiform activity restricted OT the left parietal and mid parietal regions

Done on-27-09-2016

EP evidence s/o generalized epileptiform discharge

Ayurvedic View

Vata-pradhan tridosh dusti

Diagnosis

The case was diagnosed as quadriplegic cerebral palsy. Ayurvedic diagnosis is *Vyadhij phakka roga*.

Assessment Criteria

Subjective: For assessment the result four symptoms will be kept as parameter.

A) Spasticity

- Grade 1- Present
- Grade 2- Absent

B) Muscle power^[7]

- Grade 0-complete paralysis
- Grade 1- A flicker of contraction only
- Grade 2- power detectable only when gravity is excluded by appropriate postural adjustment
- Grade 3- the limb can be held against the force of gravity but not against the examiners resistance
- Grade 4- there is some degree of weakness, usually described as poor fair or moderate strength
- Grade 5- normal power is present.

C) Muscle tone

- Grade 1 - Hypertonic
- Grade 2- Hypotonic
- Grade 3- Normotonic

D) Ankle clonus

- Grade 1- present
Grade 2- Absent

E) Attack of convulsion (during treatment)

- Grade 1 - present
Grade 2 - Absent

F) Clinical features

- Grade 4- walk with 1 finger support
- Grade 3- walk with both hand supports
- Grade 2- unable to walk with support
- Grade 1-unable to stand without support

RESULT AND DISCUSSION

Effect of *Pachakarma* therapy and Ayurvedic medicine on symptoms of Quadriplegic cerebral palsy.

S. N.	Assessment Criteria	BT	At 1 st F/U	At 2 nd F/U	At 3 rd F/U	At 4 th F/U
A.	Spasticity	1	1	1	2	2
B.	Muscle power	2	2	3	3	4
C.	Muscle tone	1	1	1	3	3
D.	Ankle clonus	1	1	1	2	2
E.	Attack of convulsion	1	1	1	1	1
F.	Clinical features	2	2	3	3	4

Treatment Plan/Discussion

S. N.	<i>Shaman chikitsa</i>		<i>Shodhan chikitsa</i>
1.	<i>Tab. Bramhi vati</i>	1 Tab. TID	<i>Udavartana by Sarsapa+triphala choorna</i>
2.	<i>Tab. Swarna vasant malini rasa</i>	½ Tab. TID	<i>Abhaynga by Prasarini oil</i>
3.	<i>Syp. Bala-aswagandha rista</i>	7.5ml TID	<i>Shastika shali panda sweda</i>
4.	<i>Bramhi grita</i>	3ml TID	<i>Chaturbhadra kalpa basti</i> <i>Matra basti with prasarini oil 30 ml Niruh basti (dashmoola + nirgundi+ bala) 300ml</i>
5.			<i>Shiroabhyanaga by Kalyanka grita</i>
Follow up- 30 days Total duration of treatment- 5 month Discharge medicines- All oral medication			

In above case study patient got 85% relief from symptoms of quadriplegic cerebral palsy. *Panchakarma* therapy and Ayurvedic medicines works astonishingly in this area and can do a spectacular job. *Acharya kashyap* mentioned *basti, snehapan, swedan, and udavartana* as a line of treatment in *vata prakopa* condition of *phakka roga*.^[8] In this case study *Matrabasti* 8 days and *niruh basti* 4 days given according to *chatubhadra kalp basti*, which is mentioned by *Acharya kashyapa* in the context of *basti karma*.^[9] Chikitsa has been chosen and they showed good results along *matrabasti* with *kalyanka ghrita* (30 ml), *Niruh basti* (300ml) prepared with *Bala, Aswagndha, Nirgundi, Dashmoola, Abhyanga* with *prasarini oil, udavartana* with *sarsap choorna* mix with *triphala choorna* and *shiroabhyanga* with *bramhi ghrita*. According to the modern science theory some drugs of active principles are not able to cross the blood brain barrier, because might be they are having lipophobic properties/ action so, we are making the drugs blood brain barrier friendly or they can cross the barrier so we are preparing with saturated fatty acid products (*ghee*) so, they can cross the blood brain barrier because the *ghee* having lipophilic action and show their maximum result of the drug. Maximum part of brain is formed by fat so *ghrita* is also important as nutrition for brain and improve the quality of patient life. *Ghrita* has a main role in the management of diseases with prominent psychological component. *Brahmi* being a *Medhya* drug is recommended for various psychosomatic and psychiatric disorders. Oral medications are tablet *bramhi vati* 1 tab TID, *Bala-aswagandharsita* 7.5 ml TID and *bramhi ghrita* 3ml TID and *bramhi grita* 3ml TID, which are stimulate the brain for normal function.. Maximum part of brain is formed by fat so *ghrita* is also important as nutrition of brain.

CONCLUSION

In this patient, the overall effect was found near 80-85%. As this disorder is increasable, this percentage of improvement helps in the improvement of the quality of life. 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 sporting to take over the function of damaged neurons. Therefore this improvement in patient also supports the concept of neuroplasticity.

Therefore it can be concluded that Ayurvedic therapy along with oral medications help to improve the strength of the muscle, help to boost the brain activity and improving the quality of life.

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