A CRITICAL STUDY OF PARAPLEGIC CEREBRAL PALSY CHILD AND ITS TREATMENT MODALITIES THROUGH AYURVEDA

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Abstract: This case describes about a 15 month old male child with spastic paraplegic cerebral palsy it is achieved by multifactorial approach of Ayurveda that includes *shaman, sanshodhan, rasayan chikitsa*. **Aim & Objective**: To access the efficacy of Ayurvedic medicine in the management of paraplegic cerebral palsy **Setting:** IPD of Rajiv-lochan Ayurved medical college & hospital Chandkhuri, Durg (Chhatisgarh) **Method:** Panchakarmagiven with oral Ayurvedic medicines. Assessment was done before and after shodhana and shamana treatment with 20 days follow-up **Result:** Ayurvedic line of treatment is effective in the management of Paraplegic cerebral palsy.

KEY WORDS: Paraplegic cerebral palsy, Ayurvedic line of treatment.

Introduction: Cerebral palsy is the most common chronic motor disability that begins childhood with a prevalence of 2:1000. A substantial number of children with cerebral palsy had congenital anomalies external to the central nervous system[1]. A variety of pathological lesions such as cerebral atrophy, porencephaly, migreation defects, microencephaly, leukomalacia, degeneration of basal gangalia and cerebellaer lesions may be observed. Gliosis of the contralateral hemispheres may result from vascular occulusions[2]. Elevated levels of inflammatory cytokines are noted in heelstick blood collected at birth from children who later were identified with cerebral palsy[3]. The role of mild birth asphyxia as an etiological insult for cerebral palsy is questionable. Most infants have multiple risk factors. Low birth weight is an important risk factor for cerebral diplegic while good birth weight babies get quadriparesis or hemiparesis and a poorer mental outcome[4]. It is a diagnostic term used to describe group of motor syndrome resulting from disorders of early brain development. In Ayurveda, paraplegic cerebral palsy is compare with *Adharang vata*. According to *Acharya kashyapa, Vyadhija phakka roga* can compare with diplegic cerebral palsy.[5] spastic paraplegia is commoner in preterm and is associated with periventricular leukomalacia. The lower limbs are more severely affected with extension and adduction posturing, brisk tendon jerks and tendency to contractures[6].

CASE REPORT:

A 15 month aged male patient was brought to Rajiv-lochan Ayurvedic Hospital Chandkhuri, durg (Chhatisgarh) with complaints of unable stand without support.

BRIEF HISTORY:

A 15 month male patient was came our hospital with complain of child unable to stand without support since appropriate age. Child was delivered normal vaginal delivery at 35 week of gestational age with birth weight 2.1 kg. Child was cried after stimulation, admitted N.I.C.U for 5 days. At the age of 8th month mother was observed that child was not able to sit without support, so they consulted to nearby hospital, Doctor advised physiotherapy, after 2 month of physiotherapy patient started setting without support. Then mother observed at the age of 1 year, that patient was not able to stand without support, they again consulted to other hospital. Doctor advised him some medicines for 1 month with physiotherapy for 2 month, but they didn't found any improvement.

Past history: Late preterm baby.

All the developmental milestones 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 22 years and the father was 25 years. Mother took regular antenatal checkups and took medicine on time, History of pregnancy induced hypertension, No history of any kind of infections, diabetes, or seizures was reported.

Natal History:

Late preterm male baby (35^{th} week), Normal vaginal delivery, cried after stimulation, birth weight- 2.1kg.

Postnatal History: NICU for 5 days

Family History: All family member said to be normal.

Developmental History- All milestones are attained Delayed.

s.n	Gross motor	Fine motor	Language	Social
1.	Neck holding (3^{rd} month)	Bidextrous reach to object (9^{th} month)	Cooing sound (3^{rd} month)	Social smile (6^{th} month)
2.	Sitting with support (8^{th} month)	Unidextrous (11^{th} month)	Monosyllables (9^{th} month)	Recognize to mother 8^{th} month)
3.	Sitting without support (11^{th}	Immature pincer	Bisyllables (11^{th}	Laugh a lot (12^{th}

	month)	grasp (12th month)	month)	month)
4.	Stand with support (1st year of life)	Mature pincer grasp (14th month)		

Medical History: Allopathic medicines, physiotherapy.

Immunization History: Given as per Schedule

Dietic History: Exclusive breast feeding was done up to age of 3 month, weaning began with banana, fruit juice, etc.

Personal History:

Appetite –poor

Bowel – Alternate days

Micturition –Normal, 3-4 time/day

Sleep –Normal

General Examination

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

Vital signs

HR –92/min RR –22/min Temp.98.6°F

Anthropometry –

1.	Head circumference	42 cm.
2.	Chest circumference	51 cm
3.	Mid arm circumference (both)	11.5 cm
4.	Mid thigh circumference (both)	21 cm
5.	Height	69.5 cm
6.	Weight	9.5 kg

On Examination:

General examination:

Consciousness- conscious	Lymphadenopathy - absent
Icterus-absent	Cyanosis-absent
Clubbing-absent	Gait- Absent
Pallor-absent	Eye-squint eye present

Vital sign:

Blood pressure- 90/50mmhg

Respiratory rate: 22/min

Heart rate - 92/min

Temperature -98.6^{o}F

Respiratory system: Chest bi- symmetrical, no added sound RR- 22/min

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 both is affected.

Muscle power:

Lower limb- 2/5 and Upper limb- 4/5

Gait- Absent, Muscle tone is hypertonic, ankle clonus- Absent, babinski sign- negative Sensation- normal, hearing- normal, language-bisyllbes, 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.

Ayurvedic View:

Vata-pradhan tridosh dusti

Diagnosis:

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

Assessment Criteria:

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

A) Spasticity:

a. Grade 1- Present b. Grade 2- Absent

B) Muscle power[7]

a. Grade 0-complete paralysis

b. Grade 1- A flicker of contraction only

c. Grade 2- power detectable only when gravity is excluded by appropriate postural adjustment

d. Grade 3- the limb can be held against the force of gravity but not against the examiners resistance

e. Grade 4- there is some degree of weakness, usually described as poor fair or moderate strength

f. Grade 5- normal power is present.

C) Muscle tone:

a. Grade 1 - Hypertonic

b. Grade 2- Hypotonic

c. Grade 3- Normotonic

D) Ankle clonus:

Grade 1- present

Grade 2- Absent

E) Attack of bebinnski sign:

Grade 1 - present

Grade 2 - Absent

F) Clinical features

a. Grade 4- Able to stand and walk 5-6 steps

b. Grade 3- Stand with support of fingers

c. Grade 2- Stand with one hand support

d. Grade 1-.unable to stand with hand support

RESULT AND DISCUSSION-

Effect of Ayurvedic medicine on symptoms of paraplegic cerebral palsy.

s.n	Assessment Criteria	BT	AT 1st F/U	AT 2nd F/U	AT 3rdF/U	AT 4thF/U
A.	Spasticity	1	1	1	2	2
B.	Muscle power (lower limb)	2	2	2	3	4
	(upper limb)	4	4	4	4	4

C.	Muscle tone	1	1	1	3	3
D.	Ankle clonus	2	2	2	2	2
E.	Bebinnski sign	1	1	1	1	2
F.	Clinical features	1	2	3	3	4

Treatment Plan/Discussion:

S.n	***Shaman chikitsa***		***Shodhan chikitsa***
1.	*Tab. Brihat vata chintamani rasa*	1/2 Tab. TID	*Abhaynga by Prasarini oil*
2.	*Tab. Swarna vasant malini rasa*	1/4 Tab. TID	*Shastika shali panda sweda*
3.	*Syp. Cognium*	7.5ml TID	*Matra basti with Samvardhana oil*
4.	*Samvardhana grita*	3ml TID	*Shiroabhyanaga by Samvardhana grita*
	Follow up- 20 days		**Total duration of treatment- 4 month**
	Discharge medicines- All oral medication		

In this case study patient got 80% relief from symptoms of paraplegic cerebral palsy. Ayurvedic line of treatment works astonishingly in this area and can do spectacular job. *Acharya kashyap* mentioned *snehapan, swedan*, and *udavartana*, basti as a line of treatment in *vata prakopa* condition of *phakka roga*[8]. In this case study, follow the Ayurveda line of treatment like *abhyanga* with *prasarnin oil, shashtikanshali panda sweda, shiroabhyanga with samvardhana* ghrita, matra basti with samvardhana ghrita for 10 days and oral medication are tab. *Swarna vasanta malini rasa, brihat vata chintamani rasa*, syp. Cognium, *samavardhana ghrita*. Chikitsa has been chosen and they showed good results along *matrabasti* with *samvardhana ghrita*(20 ml), 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. 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 helped to improve the strength of the muscle i.e, muscle power when he came early was 2 and now after treatment is 4 and earlier he was unable to walk and perform his daily routine work but after treatment patient is now able to walk 4-5 steps and perform his daily routine work on his own and helped to boost the brain activity and improve the quality of life.

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