

A Single Case Study on the Impact of Ayurvedic treatment of Cerebral Palsy.

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Abstract—Cerebral palsy (CP) is considering as a non progressive neuromotor disorder of cerebral origin.it includes heterogeneous clinical states of variable etiology and severity ranging from minor incapacitation to total handicap. In india 1.77% of the population has some form of disability. Spastic cerebral palsy is most common and incidence is 60% to 70% of all cerebral palsy case. It cannot be correlated with any single disease or condition in Ayurveda, as it is a multi-factorial disease with clinical features of a wide variation. It can be taken as Vatavyadhi as far as its etiology and symptoms are concerned. Here, an effort was made to treat a 6-year-old male child with spastic diplegic. Cerebral Palsy using multiple Ayurvedic treatment modalities. 3 Month oral medicine and Pañcakarma procedures resulted in better improvement in sign and symptom of cerebral palsy.

Index Terms—Cerebral palsy, vatavyadhi, panchakarma.

I. INTRODUCTION

Cerebral palsy is a static disorder of posture and movement. its cardinal symptom is motor disability and usually associated with speech, vision, intellect abnormalities of varying degrees. It is not familial disease. Brain growth is nearly complete by 2-3 years of age and Cerebral Palsy is a clinical manifestation of developing brain injury during this period, irrespective of the cause, commonest being adverse perinatal event like prematurity and birth asphyxia. Motor disorders of Cerebral Palsy are often accompanied by disturbances of sensation, perception, cognition, communication and behavior. Cerebral Palsy is classified on basis of topographic distribution, neurologic finding and etiology are five types. 1.spastic 2. Hypotonic 3. Extrapryamidal 4. cerebellar involvement 5. Mixed Cerebral Palsy.

Sign and symptom-Infants may have persistent irritability, difficult to feed and feels stiff or floppy. Infant does not develop motor skills in accordance to the age. Baby presents the features like tone abnormalities, persistent or asymmetrical primitive reflexs and delayed mile stones abnormal growth charts, impaired muscle tone.

Diagnosis: C.B.C, C.T. Scan/MRI, Audiologic testing, hip or spine X –ray, EEG.

Management-cerebral palsy cannot be cured completely. Therapy is employed to manage impairment (Primarily spasticity, contracture and muscle tone), manage pain and provide optimum quality of life by fostering functionality, self care and independence.

The medical management program may include the following therapy. Autologous stem cell such as activation treatment to expand the blood vessels and nourish the neurons, strengthening of body's immune system, stem cell transplantation procedure, Botulinum toxin type A injection, baclofen intrathecal injection, selective dorsal rhizotomy, orthotic devices such as ankle-foot orthoses, hyperbaric oxygen therapy, neuroplasticity are the newer advancements being tried out in the management of Cerebral Palsy.

Ayurveda has a separate branch of clinical specialization concerning child healthcare known as Kaumarbhritya. There is no one to one correlation available in Ayurvedic classics with Cerebral Palsy, but there are many conditions and some causative factors linked to etiopathology for such type of disease condition described in many chapters in different texts. Some conditions which find an overlap of symptoms of Cerebral Palsy include Ekangaroga (monoplegia), sarvangaroga (quadriplegia), paksaaghata (hemiparesis), paksavadha (hemiplegia) phakka (a kind of nutritional disorder), Pangulya

(locomotor disorders) under the group of vata vyadhi (neurological disorders).

II. CASE REPORT

Basic information of the patient.

Age: 6 years.

Sex: Male.

Religion: Hindu

Socio-economic status: Middle class.

Family history: Father has educated and working in private company. Mother has studied 10th standard and she is a house wife. Total no. of family members is 3. No history of consanguinity marriage.

Pradhanavedanavisesa (chief complaints)

Patient was Unable to sit, stand or walk without any support, delayed milestones.

Vartamanavyadhivrtta (history of present illnesses)

Patient was preterm normal delivered and did not cry soon after birth and suffered from birth asphyxia and neonatal jaundice. Due to all these clinical complications, the child could not achieve normal growth and development. Spasticity and involuntary movement became apparent after the age of 5 months and since then the parents started treating the child going to many doctors without any significant benefit. They approached us for further management.

Purvavyadhivrtta (history of past illness)

Patient was suffered from Birth asphyxia, Neonatal Jaundice

Cikitsavrttanta (Treatment History)

He was undergoing physiotherapy and also had operated both thigh for muscles relaxation.

Kulajavrttanta (Family History): No any significant history available.

Birth history (Antenatal)

Mother (24 years) has taken folic acid in the first trimester no H/o any fever, rashes, vaginal bleeding etc. in 1 st trimester. Mother had taken Inj. TT (two doses) in 2 nd trimester. No h/o hypertension, anemia etc.

Perinatal: Baby did not cry soon after birth. Birth weight was 2.2 kg (low birth weight). Liquor was clear. No any congenital anomalies were seen.

Postnatal: Baby had suffered from birth asphyxia, Neonatal jaundice.

History of immunization

Patient has taken BCG, DPT, HiB, HBV and Measles at the proper for age as per schedule.

Personal history Aharaja: Patient was totally dependent for food intake and was eating only semi solid and solid food.

Appetite was poor. Diet was dominant in katu and amal rasa.

Viharaja: Nature of activity was always assisted (due to spastic diaplegia).

Sleep was disturbed (2–4h/day, 5–6 h/night).

Examination

Vitals were normal.

III. LOCAL & SYSTEMIC EXAMINATION

Respiratory system: Air entry equal in both sides, Respiratory rate: 22/min. No other Cardinal symptoms of R.S.

Cardiovascular system: Pulse: 76/min

Central Nervous System Examination

1. Higher function test: Conscious, Alert, Co-operative, Oriented
2. Speech Assessment: Normal
3. Gait: Scissoring gait
4. Muscle tone: Increased especially on both legs
5. Co-ordination test: Finger nose test – Normal.
6. Power: Normal.
7. Nutrition: Normal.

Hyperreflexia was present, suggestive of upper motor neuron disease (which is the hallmark of C.P.).

Involuntary movements-Absent.

Reflexes

Plantar reflex: babinski’s sign positive

Deep Reflexes

	Right	Left
Knee jerk	Exaggerated	Exaggerated
Ankle jerk	Exaggerated	Exaggerated

Sensory Function

		Pain	Touch	Temperature
Upper limb	Right	Normal	Normal	Not done
	Left	Normal	Normal	
Lower limb	Right	Normal	Normal	Not done
	Left	Normal	Normal	

Bladder: Normal, Bowel -normal, Swallowing-normal

Diagnosis: CT scan of Patient: Linear Shaped III defined clefts lined by Grey Matter in Both Parital regions, extending upto the corona Radiata, may

Represent Schizencephaly. Mild Fullness of Both Lateral ventricles.

Ashtavidha Pariksha,

Nadi (pulse) was vatadhika tridosaja.

Mutra (urine) Frequency and color were normal.

Mala (stool) was constipated and passes with a foul smell and dark color, once in two days. Jihva (Tongue) was sama (coated due to improper digestion).

Sabda (speech) –spasta, understandable.

Sparsa (touch) was khara (dry due to hypertonia and spasticity).

Druk (eyes) was normal.

Akruti (appearance) was lean (due to malnourishment).

Samprapti

1. Vatprakopa
2. Katipradsha me Sthanashraya
3. Shnyayu Kandara, Shira, Nadi ki vikriti
4. Khanja & Panguta

Samprapati Ghataka

Dhosha: vata (vyana, Apana)

Dhushya: Rasa, Rakta, Mamsa, Asthi, Shira, Snayu, Kandara

Adhisthana: Asthi, majja

Shrotasa: Rasavaha, Mamsa, Asthivaha

Shrotodusthi: Sanga

Agni: Mandya

Sadhyata: Krucha shadhyata

Criteria for Assesment: Anthropometrical measurements, developmental milestone, Modified Ashworth Scale (MAS), Manual ability classification system (MACS), Reflex scale to assess deep tendon reflex.

Chitrasutra: Delayed development of gross and fine motor function may be due to a problem in normal function of Vata (Pravartaka Cheshtanam ucchavchanam). Hance achieves results in developmental disorders, function of Vata (normal physiology) should come to normal. we are doing ama –pachana, deepan, mrudu sanshodan, anuloman, vatahara, balya, bhrughan chikitsa. Rasa vaha shroto dusti chikitsa sutra langhan, Mamsavaha vyadhi chikitsa purificatory therapy, Surgical therapy, Asthi asaraya vyadhi chikitsa is panchakarma mainly Basti

which consisting of dugdha, ghruta and drugs of bitter taste. Shanayu, Shira, Kandra vyadhi chikitsa is like vata vyadhi.

Treatment Protocol: The total duration of treatment was of 3 months in which mainly Panchakarma therapy along with oral drug (Samana therapy) was given.

A) Treatment in 1st sitting (for 1month)

10-day Pachana and deepan chikitsa followed by 7-day Udawartana followed by 15 days Snehana by bala-Aswagandha taila with shashti shali pinda Sweda.

B) Treatment in 2nd sitting (for 2 Month)

10 days Majja siddha Anuvasan basti. Two such courses were done with the interval of 1 month. After those 10 days gap. And again, nasya for 10 days and after that shirodhara for 10 days simultaneously Snehana by bala-Aswagandha taila with shashtika shali pinda Sweda and oral medicine.

Shodhan Chikitsa (Panchakarma)

Deepan: Pachana: with chitrakadi vati and Trikatu churna 1 gm+ Haritaki churna 1gm twice a day before meal with lukewarm water twice.

Shunthi churna 3gm+Dhanayak churna 2 gm (in 1 litra jala, boiling making phanta) used all day.

Udawartana: With Istika churna (Brick powder) with tila taila mixed (10 min).

Abhyanga: With lukewarm Bala-Ashawagandha Tila Taila (20 min)

Swedan: Shashti Shali Pinda Sweda (20 min).

Nasya – Shatabindu taila 2-2 drops.

Anuvasan Basti (majja sidha tail): Basti was given with majja siddha tail (majja = 100 ml +1 litra of tila tail, kwath dravya= bala churna, musta churna, shatavari and ashwagandha churna) with 30 ml dose.

Shirodhara: Bala-Ashawagandha Taila (15 min).

Shamana –Chikitsa: Aswagandha churna 2 gm+ Dhatupostic churna 1 gm B.D. with Milk

Pipalyadhasawa -5 m.l B.D.

Dwatrinsata kwath 50 m.l. B.D

Yoga –Pshchimotanasana and pranayam 30 min. daily Exercise: Forward bending, pulling the rope etc.

Orthopedic support: Light weight splints may be required for tight tendo: Achilles and cortical thumb.

IV. RESULT

Table B.T. –A.T. Comparison.

Sings and symptom	B.T.	A.T.
1.Scissors gait	Present	Absent
2 Muscle-Tone	Hypertonicity	Improvement
3.Sitting	Unable	Easily sit
4.Standing	With support	Without support for 2-3minutes
5.Walking	With support	Without support for 30 sec.to 1minutes
6. Forward bending	For 120 degrees	For 170 degrees
7. Dropping of foot	Dropping of foot	Improvement
8.Appetite	Alpa	Samayak (Normal)
9.Stool	Savibandha	Samayak (Normal)
10.jivha	Sama	Nirama

Table B.T. –A.T. Comparison-Anthropometric parameters.

1. Weight(kg)	18kg	21kg
2. Height (in cm)	110	112
3. Head Circumference (in cm)	49	49.5
4. Chest Circumference (in cm)	62	64

V. IMPROVEMENT IN THE PATIENT DURING TREATMENT



VI. DISCUSSION

Abhyanga therapy has vata anuloman, Mardavakaram, Vatakapha: nirodhanum, dhatupusti karum. (Su.chi.24/30). It's nourishing the body, extends the life span, provides better physical stability.

Swedana therapy removes stiffness, heaviness and cold of the body along with the sweat. (Ch. Su. 22./11). It helps open the channels and removed the dosha. Dosha which are localized in the dhatu, in their own seats or lurking in their channels, which have become

moist by lubricants now get liquefied by sudation reach the kostha and get expelled out by purifactory therapies. Sudation help kindles the digestive fire, softness to the body, goodness to the skin, desire for food, purity of the srotas and helps movements in stiff joints.

Udwartana Massaging with the powder of istika churna with tila tail augments the fire of skin, Widens the orifices of vein hence may have improved blood and lymphatic circulation. It helps in improvement in muscle-tone. (Su. chi.24/51,56).

Shashti shali pinda swadan, in which heat, pressure and oil are applied simultaneously with some Vatahara drugs. it helps in inducing nerve stimulation and muscle's relaxation and increases the efficiency of muscle action by enhancing blood supply, thus ensuring the optimum condition for muscle contraction.

Shirodhara deeply relaxes the nervous system, lowers metabolism, integrates brain function and creates brain wave coherence. When the brain is under stress, cerebral circulation is compromised as the oil is poured on the head the nervous system is deeply stilled the brain waves slow down and coherent. Once the brain is quieted, more life energy and oxygen and other nutrients flow freely to brain. This result is better brain function, mood stability. Regular treatments are said to increase blood circulation to the brain, improved memory and sound sleep and calm body and mind.

Basti (majja sidha basti) is have to said Bhughan effect. Basti have directly worked on vata to bring it back to normalcy. Basti acts on CNS by stimulating enteric nervous system (ENS), there are many evidences linking. This Majja siddha Basti given in the form of Matra Basti alleviates Vata, purifies the body by removing toxins carrying out Mridu-shodhana and provide nourishment to the patient. Dalhana state that material in skull is called Mastulunga (Masthishka Majja). it is like a ghruta. so, brain contains majja in the form of masthishka majja. (Dalhada su. sh. 10/42) in ayurvedic concept of charaka samanyam samanaya vrudhikarkam Hence, masthishka majja improvment by majja siddha basti. Susrutha says the chief quality of Majja is providing Bala and Snehana to the Shareera. Function of Majja Dhatu Special function of Majja is Purana (filling of Bones). Asthi and Majja do the Dharana and Purana of the entire body indirectly with the help of Medas. Quantity of Majja While assessing the Majja Guna and Karma, it's evident that

it helps in the maintenance of the shape of Asthi along with Vata. Vata and Majja, two different entities having the opposite quality are present inside the Asthi (Vata takes Ashraya in Asthi and Majja is formed inside the Asthi). They both complement each other system.

Aswagandha powder is providing a nourishing, yet energizing effect. It's can support a healthy nervous system. With the use of Ashwagandha, stress doesn't impact the nervous system. In this way, ashwagandha has a rejuvenating and calming influence on the nervous system.

Bala churna: It have anti-inflammatory property it reduces inflammation in body. It is enriched with antioxidants. which aids in neutralizing effect of free radical in body. It helps to relieves spasm of involuntary muscles. In Ayurveda, Bala churna have balya, bhrughan Ojavaradanum, krantikruta, Vataharanam properties which help in to eliminates vitiated vata dosha.

VII. CONCLUSION

The selected Ayurvedic treatment modality is effective in relieving the signs and symptoms and thus reducing the disability in children with diplegic Spastic Cerebral Palsy. In this patient, Panchakarma is effective in improving growth (height, weight, Chest Circumference) and development (standing and walking without support), reducing spasticity of lower limb and spasm in patients. Delayed development of gross and fine motor function may be due to a problem in normal function of vata have directly worked on vata to bring it back to normalcy.

As this disorder is incurable, Ayurveda treatment helps the patient to improve the quality-of-life (QOL). Improvement in this disorder is possible in earlier age; in later age it becomes incurable. 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. This improvement in patients also supports the concept of Neuroplasticity. So, this case show we can improve such type of patient Quality of life by Ayurvedic treatment.

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