



ROLE OF PANCHAKARMA IN THE MANAGEMENT OF CEREBRAL PALSY IN CHILDREN

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ABSTRACT

Cerebral palsy is a static, non progressive perinatal encephalopathy manifested by abnormal control of movement and posture having additional disturbances of cognition, communication and behaviour. It is a leading cause of childhood disability affecting function and development causing physical, mental and social handicapped. In Ayurvedic texts various factors are described influencing the developing brain and also they have mentioned various precautionary measures and advises that should be followed. In Ayurvedic texts the cerebral palsy and its related features can be covered mainly under Vatavyadhi. The main causes are Dauhrid Avamanana (Not fulfilment of longings of the pregnant woman), Vata Prakopa during pregnancy, use of Garbhopaghatakara bhava, intake of Dusta stanya etc. There is no effective treatment for the underlying brain damage in cerebral palsy has been developed till today. Ayurveda, time tested life science having holistic approach for its management of all aspects and disorders of the life. In case of cerebral palsy it has various treatment modalities such as medicines like Medhya Rasayana to promote stamina of the brain and Panchakarma therapy like Snehana, Swedana, Nasya and Basti to reliving the spasticity and strengthening the muscles. So that it is necessary to review and promote the Ayurvedic system of medicine for the better management of cerebral palsy in children.

KEYWORDS: Cerebral Palsy, Ayurveda, *Panchakarma*, *Bastikarma* etc.

INTRODUCTION

Cerebral palsy is a static, non progressive perinatal encephalopathy manifested by abnormal control of movement and posture,^[1] leading cause of childhood disability affecting function and development causing physical, mental and social handicapped. The motor disorders of cerebral palsy are often accompanied by disturbances of sensation, cognition, communication, perception, and/or behaviour, and/or by a seizure disorder. Despite development of super specialized modern medical system the prevalence of cerebral palsy case are still increasing. In Ayurvedic texts various factors are described influencing the developing brain and also they have mentioned various precautionary and treatment measures and advises that should be followed.

There is no effective treatment for the underlying brain damage in cerebral palsy has been formulated till today. The management of cerebral palsy involves to relieves stiffness of the muscles such as physiotherapy, speech therapy, occupational therapy and some stiffness

removing drugs so that the affected child become able to perform their daily routine work but it is seen that these therapies are not sufficient for the management of cerebral palsy and there is extensive need to search better option for the management of such type of abnormalities. The management should be also focused on the improving of the function of brain damage.

Ayurveda, time tested life science having holistic approach for the management of all aspects and disorders of the life. In case of cerebral palsy Ayurveda has various aspect of treatment such as medicines like *Medhya Rasayana* to promotes stamina of the brain and *Panchakarma* therapy for reliving the spasticity and strengthening the muscles. So that it is necessary to review and promote the Ayurvedic system of medicine in the management of cerebral palsy.

TYPES OF CEREBRAL PALSY

Cerebral palsy is characterized according to affected part of the controlling brain and movement. The type of

movement in Cerebral Palsy patient depends upon severity of brain injury and its impact on muscle tone.

There are four major types of cerebral palsy.

1. Spastic cerebral palsy

- It is caused due to damage of motor cortex and pyramidal tract of the brain. In this type of CP the simple tasks such as walking or holding up small objects becomes more challenging. There is also some coexisting condition like ADHD and epilepsy are present. According to muscle stiffness affected area, spastic CP can be subtypes as spastic diplegia, spastic hemiplegia or spastic quadriplegia.

2. Athetoid cerebral palsy

- It is also known as dyskinesic cerebral palsy, caused due to damage to the basal ganglia or cerebellum or both. Basal ganglia co-ordinate voluntary movement and helps to regulate thinking and learning while cerebellum is essential for balance and fine motor skill.

3. Ataxic cerebral palsy

- There is impaired movement due to loss of motor coordination.

4. Mixed type

- It contains features of all types of C.P.

The cerebral palsy appears during infancy or preschool years.

It produces following features-

- Impaired movement associated with abnormal reflexes,
- Floppiness or rigidity of the limbs and trunk,
- Abnormal posture,
- Involuntary movements, Bending arms or clenching fists unknowingly
- Unsteady walking,
- Toe walking,
- Teddy bear pose (Keeping arms raised or suspended in air)

The early features of Cerebral Palsy are

- Baby's inability to lift his or her head by the appropriate age of development
- Poor muscle tone
- Stiffness in joints or muscles, or uncontrolled movement in a baby's arms or legs.

In these children there may be additional disturbances of cognition, communication and behaviour. Some having imaging abnormalities in the brain, such as focal infarction, brain malformations and periventricular leukomalacia however not all children with cerebral palsy have abnormal brain imaging and in such cases determining the cause is particularly challenging.^[2]

CEREBRAL PALSY ACCORDING TO AYURVEDA

Since it is multifactorial and multi featured disorder so could not be correlated with any single disease or condition mentioned in Ayurvedic texts. According to

Ayurvedic texts the cerebral palsy and its features can be covered under following diseases or conditions.

- *Phakka roga* (Nutritional disorder described in Kashyapa samhita)
- *Paṅgulya* (Locomotor disorder),
- *Mūkatva* (dumbness),
- *Jaḍatva* (mental disorders),
- *Ekāṅgaroga* (monoplegia),
- *Sarvāṅgaroga* (quadriplegia),
- *Pakṣaghāta* (hemiparesis),
- *Pakṣavadha* (hemiplegia),
- *Akshepaka* (convulsion disease) etc.

All the above conditions are under the group of *Vātavyādhi* and the management should be planned according to diagnosis made by Ayurvedic diagnostic tools (*Rogi- Roga Pareeksha*) such as *Dosha, Dushya, Srotos, Adhithana, Vyaktasthana, Prakriti, Asthavidha Pareeksha* etc. According to Vagbhatta it can be included under *Sahaja, Garbhaja* and *Jataja* types of disorders.^[3]

CAUSES OF CEREBRAL PALSY

This sporadic, non progressive, non contagious condition^[4] having multiple aetiology but frequently considered to be caused by prenatal, natal, and postnatal insult producing injury to the developing brain especially by birth asphyxia.

In Ayurvedic texts following causative factors are described related to cerebral palsy or cerebral palsy like disorders-

- *Dauhrīd Avamanana* (Not fulfilment of longings of the pregnant woman)^[5]
- *Vata Prakopa* during pregnancy (aggravation of vata during pregnancy)^[5]
- Use of *Garbhopaghatakara bhava* (dietary and behavioural regime causing foetal anomaly or fetal loss)^[6]

These are^[6]

- Use of *Atiguru* (very poor digestible food items), *Atiushna* (excessive *Ushna*/hot food items), *Atiteekshna* food items.
- *Daruna Chesta* (excessive hard work)
- *Rakta Vastra Dharana* (use of red cloths/cloths mixed with blood)
- Use of *Madya*(alcohol) or intake of *Madakarak* (drunkenness/intoxication producing) food item
- *Yanamadhirohana* (riding over especially excessive shaking)
- Intake of meat
- Use *Sarvendriya Pratikula Ahara Vihara* (diet or behaviour which are harmful for sensory organs)

- Not following proper *Garbhini Paricharya* (the optimum guideline followed during pregnancy as prescribed in Ayurvedic texts or others)^[7]
- Incompatible *Garbha Vriddhikara Bhava* (factors responsible for fetal growth)- these are *Matraja*,

Pitraja, Atmaja, Satmaja, Satvaja and Rasaja Bhava.^[8]

- Intake of *Dusta Stanya* (vitiated mother milk) especially due to *Tridosha* or *Vata Pitta* in *Vatapitta Prakriti* mother^[9]
- *Akala Pravahana* (producing force by the mother in inappropriate time during labour),
- *Shiromarmabhighata* (head injury),
- Not performing proper *Prana Pratyagamana* (neonatal resuscitation),
- *Ulbaka* roga (aspiration of amniotic fluid).
- *Nabhi Nadi Vikara* (diseases of umbilical cord), *Graha Roga* (infectious diseases),
- Improper *Shishu Paricharya* (not using proper neonatal/infant care).

APPLICABLE PANCHAKARMA PROCEDURE IN THE MANAGEMENT OF CEREBAL PALSY

The management of cerebral palsy involves to relieve stiffness of the muscles that are physiotherapy, speech therapy, occupational therapy and some stiffness removing drugs so that the affected child becomes able to do his/her daily routine work but it is seen that these therapies are not sufficient for the management of cerebral palsy patient and there is extensive need to search better option for the management of such type of abnormalities.

Ayurveda is very old but gold, time tested life science for the management of all aspects and disorders of the life. In case of cerebral palsy it has various aspect of treatment such as medicines, *Panchakarma* therapy etc. The line of management of cerebral palsy should be *Vatashamaka* (pacifying *Vata Dosh*) and *Medhya* (Intellect promotor). The following *Panchakarma* procedure described in Ayurvedic texts are beneficial in the case of cerebral palsy.

Snehana

- *Snehana* is the process which impart *Sneha*, *Vishyanda*(liquidity/solubility), *Mardava* and produces *Kleda* in the body.^[10] *Sneha* improves longevity, complexion, strength, nourishment, vitality etc. to the body and removes vitiated *Dosha*.^[11] By the process of *Snehana Karma Sneha* is used externally as well as internally. *Sneha* medicated with *Medhya* drugs nourishes, and act towards breaking the pathology that why beneficial for the brain. *Sneha* used externally such as *Abhyanga* nourishes and removes spasticity of affected muscles in cerebral palsy patients. *Snehana* pacifies *Vata Vikara*.^[12] so can be used in case of cerebral palsy patients.

Swedana

- *Swedana Karma* is mentioned as *Purvakarma* of *Panchakarma* therapy, also beneficial separately in various problems especially in Paediatric practice. Induction of sweating for therapeutic purpose is named as *Swedana* in Ayurveda. It should be done after proper *Snehana* and alleviates stiffness, heaviness and coldness

of the body.^[13] Proper *Snehana - Swedana* removes spasticity of muscles in C.P patients. *Shastika Shali Pinda Sweda* is known for its spasm relieving and nourishing property in cerebral palsy patients.

Basti karma

Bastikarma is regarded as very special treatment modality among *Panchakarma*. Administration of medication through ano-rectal route is known as *Basti*. There is no any such delicate therapy (*Sukhakar Chikitsa*) beside *Bastikarma*^[14] for the treatment of *Shakhakosthagata*, *Sarvanga* or *Ardhanga Gata Roga* because *Vata* plays a root cause for the production of these diseases^[15] and *Basti* is the best procedure to pacify *Vata*.^[16]

Nasya Karma

The process in which drug administered through the route of nostrils is referred as *Nasya Karma*.^[17] *Acharya Charaka* has mentioned *Nasa* (nostrils) as gateway of *Shiraha* (head/brain) so the drug administered through the nose as *Nasyakarma* reaches to entire *Shira Pradesh* through *Sringataka Marma* to eradicate the disorder of *Urdhvajatru* caused by *Vitiated Kapha* (by *Virechana Nasya*) and *Vata Dosh* (cured by *Snehana Nasya*).^[18] Especially *Snehana Nasya* should be used in case of cerebral palsy as it comes under *Vata Vyadhi*.^[19]

DISCUSSION

Cerebral palsy can be considered under *vatika* disorder in Ayurveda so *vata*shamaka *Panchakarma* procedure should be done. In a study done by Sagar M et. al, Total 8 patients of cerebral palsy were treated with 5 days of *Udvardana*, 5 days of *Abhyanga* followed by *Sarvanga Swedana* and then 8 days of *Yoga Basti*. In *Yoga Basti* 1 *Anuvasana Basti* in the beginning and then 3 set of *Anuvasana* and *Asthapana Basti* followed by 1 *Anuvasana Basti* at last were given. *Bala Taila* is used as *Anuvasana Basti* and *Madhutailika Basti* as *Asthapana Basti*. The same course has been repeated for 3 times with an interval of 14 days. during whole procedures as internal medication *Ashtanga Ghrita* is used. The result showed good especially by improving growth and development, reducing spasticity of left upper limb and muscle spasm.^[20]

In another study by Vyas A et.al which was carried out in 16 patients of cerebral palsy, 8 in each group, namely group A and group B . In group A *Shastika Shali Pinda Sweda* externally and *Samvardhana Ghrita* internally and in group B only *Samvardhana Ghrita* was given as internal use for 35 days duration. In group A, moderate improvement, mild improvement, and no improvement were observed in 50%, 37.5% and 12.5% of patients respectively. In group B, moderate improvement and mild improvement were observed in 75% and 25% of the patients respectively. Statistical significance of results on selected criteria showed the efficacy of the selected Ayurvedic treatment modality in relieving the features of CP.^[21]

An another study by U Shailaja et.al on CP patients of the age group 2-10 years were included and randomly divided into two groups. 40 cases of study group were treated with *Mustadi Rajayapana Basti* for 8 days, followed by oral administration of *Baladi Yoga* with honey and ghee for 60 days. Before administering *Basti*, *Sarvanga Abhyanga* and *Sastikashali Pinda Sweda* is given. In the control group of 40 patients tablets of *Godhuma powder* for 60 days is given. Before administering the placebo tablet, control group were given *Sarvanga Abhyanga* and *Sastikashali Pinda Sweda* for 8 days and *Basti* with lukewarm water for 8 days. The *Rajayapana Basti* and *Baladi Yoga* treated group showed the improvements in understanding ability (13.43%), speech (10%) and performance skill (11.11%), in fine motor functions such as putting small object in to a container (14.3%), throws the ball in all direction (21.8%), use of thumb and index finger (10.93%), retaining 2 inch cube in fist (19.04%), folds paper and inserts into envelope (10.30%), in gross motor functions such as in crawling (26.7%), sitting (31.7%), standing (13.75%), walking (9.5%) and claps hands (13.9%) respectively.^[22]

A case study done by Sagar Mahendra bhinde also showed the positive result on CP patients. In this study 5 days *Udvaritana* with barley powder and horse gram powder for 20 minute daily, 5 days *Abhyanga* with *Balataila* for 20 minute followed by sudation for 20 min and *Caturbhadra Kalpa Basti* (four *Sneha Bastis* to start with, followed by four *Asthapana Basti* and four *Anuvasana Basti*) and *Astangaghrita* 2.5 gm daily (*Anupana* with luke warm water) throughout treatment schedule, except the days *Basti* was given. *Anuvasana Basti* is given with 30 ml lukewarm *Balataila* and *Asthapana Basti* (120 ml) as *Madhutailika Basti*. Such three courses were done with the interval of 14 days.^[23]

CONCLUSION

In the recent era, in spite of developed medical science and its facilities in the world the case of cerebral palsy are still increasing. So there is need to review our medical system repeatedly. Still there is no effective treatment for the underlying brain damage has been formulated till today. The management of cerebral palsy involves to relieves stiffness of the muscles by the use of physiotherapy, speech therapy, occupational therapy and some stiffness removing drugs so that the affected child becomes able to do his/his daily routine work but it is seen that these therapies are not sufficient for the management of cerebral palsy patient and there is extensive need to search better option for the management of such type of abnormalities. The management should be also focused on the improving of the function of brain damage.

Ayurvedic science can provide a better direction by improving the quality of life of children with CP with better life expectancy. With the understanding and

follow up of contemporary medical science there is extensive need to understand the old scientific, time tested Ayurvedic knowledge of *Garbhini Paricharya*, *Garbhavridhikara Bhava*, *Garbhopaghatakara Bhava*, *Stanya Dusti* and other related factor for the prevention of cerebral palsy and promotion of Ayurvedic medicated *Medhya Ghrita* and *Panchakarma* procedure such as *Snehana*, *Swedana*, *Nasya* and *Bastikarma* for the management of cerebral palsy.

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