

## AYURVEDIC MANAGEMENT IN SPASTIC CEREBRAL PALSY

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**ABSTRACT**

*Ayurveda* stood always as a ray of hope in many diseases, when patient have got ultimatum from modern practitioners. One of such diseases is cerebral palsy which defined as a group of permanent disorders of movement and posture due to insults in developing foetal or infant brain generally characterized by paralysis, weakness, incoordination, or any other aberration of motor function due to pathology of the motor control centres of the brain which hamper the development of children. It occurs all around the world, causing considerable hardship to affected individuals and their families. CP is a common childhood disability with prevalence of 2:1000 live births (3:1000 live births in India), while more than 5-10% children are affected by Mental Retardation. It cannot be co-related with any single disease or condition in *Ayurveda* as it is a multifactorial condition. The important causative factors are the improper diet and regimen followed during pregnancy, *Akalpravahanam* (untimely contractures during

labour), head injury during delivery, *Garbha sosham* (Intrauterine Growth Retardation) etc. Due to these aetiology *Dhatu Kshaya* occurs followed by *Vata dosha prakopa* and which may manifest itself in any form like *Sosha*, *Pangu*, *Jadatwam*, *Phakka Roga* and *Pakshaghata* etc. Vitiated Vata Dosha is to be considered the root cause of Shiro Marma Abhighata Vata vikara, which may manifest as CP & CPMR. The spasticity was assessed through the range of motion of joints (GMFCS) while the motor and mental developments were assessed by developmental assessment scales for Indian infants (DASII) etc. We can assume vitiation of

*vata dosha* during fetal or infantile period, Paediatric *Panchkarma* is a very unique procedure because of its therapeutic, preventive, prophylactic and rejuvenating properties. *Vata shaman* including *snehanan*, *swedana* (*Shastik shali pinda sweda*, *Nadi sweda*) and *vata shodhana* (*vastikarma*). So along with panchakarma procedure a group of *Medhya* drugs/*Vatahara* drugs are used.

**KEYWORDS:** Cerebral palsy, Spasticity, Vathavyadhi Chikitsa, Panchakarma, *Medhya* drugs.

## INTRODUCTION

The brain controls all that we do. Different parts of the brain control the movement of every muscle of the body. In cerebral palsy, there is damage to, or lack of development in, one of these areas of the brain.

'**Cerebral**' – refers to the brain. '**Palsy**' – can mean weakness or paralysis or lack of muscle control.<sup>[1]</sup>

Therefore Cerebral Palsy (CP) a static encephalopathy, a non–progressive disorder of muscle control which results from some damage to part of the brain. The term cerebralpalsy is used when the problem has occurred early in life; to the developing brain.

## PREVLANCE

The exact cause of this condition is not yet known. It occurs all around the world, causing considerable hardship to affected individuals and their families. Cerebral Palsy is a common childhood disability with prevalence of 2:1000 live births (3:1000 live births in India), while more than 5-10% children are affected by Mental Retardation.<sup>[2]</sup> It cannot be co-related with any single disease or condition in *Ayurveda* as it is a multifactorial condition.

## NIDANA<sup>[3,4]</sup>

Growth and development starts after conception (*garbha dhana*), but the causative factors for *vikrati* may even exist before *garbha dhana*. Hence, etiology for the disease can be classified in the following manner. In *Ayurveda* it can be interpreted as follows.

1. **Garbhapoorva nidana:** Tulyagotra vivaha, beeja dusti, ashaya dusti, kala dusti.
2. **Garbhakaleena nidana:** Improper *garbhini paricharya*, *asatmya* and *ahitkara ahara sevana*, *ahitkara vihara*, *dauhridya apachara*, *jataharinis*, *abhighatas*, *dhumapana*,

vataprakopa.

3. **Prasavakaleena nidana:** Vilambita avi, akalapravahana, moordhabhigata.
4. **Prasavottarakaleena nidanas:** Delayed prana pratyagamana, effect of graha, effect of *Nija* and *Agantuja* disorders.

## CLASSIFICATION<sup>[5]</sup>

Cerebral palsy can be divided into four distinct types.

1. **Spastic**
2. **Ataxic**
3. **Athetoid**
4. **Mixed.**

Spasticity is the most common type of cerebral palsy. It means stiffness or tightness of muscles. The muscles are stiff because the messages to the muscles are relayed incorrectly from the damaged parts of the brain. When people without cerebral palsy perform a movement, groups of muscles contract whilst the opposite groups of muscles relax or shorten in order to perform the movement. In children with spastic cerebral palsy, both groups of muscles may contract together, making the movement difficult.

Spasticity can manifest as quadriplegia, diplegia, or hemiplegia depending up on the site and severity of the lesion. Spasticity can range from mild to severe depending on the progression of the disease and it is more pronounce in the lower extremities thanthe upper. Muscle stiffness is the chief complaint of the spastic cerebral palsy.

## Diagnosis

Typically CP is not diagnosed until the child reaches the age of walking and talking, if parents suspect a problem with lack of muscle control and coordination, they will usually find out from the child's physician that he/she has cerebral palsy.

In other instances, especially if baby is born prematurely or has high risk of developing the disorder, there is a chance that the infant will get a diagnose in the first few months of life. Similarly.

1. Physical Examination.
2. History Taking.
3. MRI which uses radio and magnetic waves to study the brain in more details.

4. USG which uses sound waves to detect certain type of structural and anatomical abnormalities.
5. CT scan which uses a series of X-rays that are then assembled by a computer to create a detailed 3-D model of child's brain.
6. EEG where small electrodes are placed on the scalp to monitor brain activity.
7. EMG (Electromyogram) and nerve conduction studies (NCS) to testing the electrical activity of muscles and to measure the conducting function of nerves.
8. Laboratory Studies, to detect any blood clotting and screen for genetic and metabolic problems.
9. Additional Tests: Vision impairment, Hearing impairment, Speech delays or impairments, intellectual disabilities, other development delays, movement disorders.

### Scales For Assessment

1. GMFCS (Gross Motor Function Classification System)<sup>[6]</sup>
2. The Spasticity Scale
3. Reflex Scale
4. Muscle Power Grading
5. DASII (Developmental assessment scale II)<sup>[7]</sup>

### Management

Ayurveda stood always as a ray of hope in many diseases, when patient have got ultimatum from modern practitioners. Management of CP is always remained a question for the physicians all over the world even with the introduction of newer and best possible ways to improve the functions of child so that quality of life is improved but it's still a challenge for them. Ayurvedic management shows good results in CP patients. This condition is termed as *Shiro marmabhighataja vatavyadhi* as Charaka while describing *Shiromarmabhighata* had mentioned *vatavikaras* like *chesta nasha* (loss of motor activities), *hanugraha*, *mukatva* (dumbness), *gadgadatva*, *lalasrava*, *svarahani* (aphasia) etc.<sup>[8]</sup> The Dhatus of the affected children are in *Aparipakwavastha*, they are *Akleshasaha* and *Sukumara*. The disease is due to *Vatha prakopa*, therefore they require *Dhadhukshayaja vatha roga chikitsa* and it aims at *Brimhana chikitsa* by giving more importance to the brain.

Paediatric panchakarma therapy along with some internal medication should be given to improve the facets of cerebral palsy.

Panchakarma is having anabolic, restorative, regenerative effect on the tissues even at atomic and molecular level and it helps growth of the tissues, in addition to increase of resistance of the body to infections with immuno creative and rejuvenating treatment.

#### ❖ Internal treatments

Samana medicines selected were all Vata-samana Brumhana type are.

1. Rajnyadi choorna – 5gm BD before food
2. Aswagandharishta – 10 ml BD after food intake.
3. Sahacharadi taila – six drops with milk at the morning after food.
4. Guloochi satwam – two pinches with honey BD after food intake.
5. Kalyanaka Ghritham – 5 ml melted ghee twice daily after food.
6. Shadangam thoya pakam used as drinking water daily.

#### ❖ Various Panchakarma procedures are

**1. Udwartana:** Udwartana with yav, kultha, horsegram powder. It opens the minute channels and improves blood as well as lymphatic circulation. Udwartan is Kaphvatahara and removes aavarna or srotorodha. It provides a platform for further procedures like abhayanga, swedana and vasti.

Minimum time interval for udwartan is 7 days and duration is 20-30 minutes.

**2. Sneha karma** (sarvanga abhyanga): Sneha karma with bala taila, sahcharadi taila, mahamasha taila for 20-30 minutes.

**3. Shastik shali pinda sweda**, baasap, nadi sweda 40-45 mint daily for 15-20 days. Reduces spasticity (esp. scissoring phenomenon), improves flexibility of joints, improves circulation and decreases pain.

**4. Upanaha swedam** on all spastic major joints with a thick paste of Vathahara drugs

**5. Vasti<sup>[9]</sup>:** Vasti is major component of treatment for CP as it is shiromarmaabhigata vataj vyadhi, it improves gross as well as fine motor functions, provides nourishment, improves overall general condition and quality of life in children with CP.

#### Vasti Schedule

**Yoga vasti** for 8 days, in which 1 anuvasana vasti in beginning and than 3 set of anuvasana and asthapana vasti followed by 1 anuvasana vasti at last were given. Anuvasana vasti is given with bala taila/ sahcharadi taila and asthapana vasti is given as madhutailika vasti.

**Kashaya Vasti:-** is Combination of sneh Vasti can be started from 3 yrs of age.

3yrs	4yrs	5-10yrs	10-18yrs
60ml	90ml	100-150ml	200-300ml

**Matra Vasti:-** starts from 1 year of age.

1yr	2-3yrs	4-5yrs	6-10yrs	11-18yrs
5ml	10-15ml	20ml	30ml	50-60ml

The same course for the treatment can be repeated 3-5 times with an interval of 14-21.

**5.Nasya:** CP is considered as a shiromarma abhigata vataj vyadhi. So nasya has a definite role to play in the treatment because it provides strength to shiromarma and shirogata indriyas. Nasya with kalyan ghrita/ mahakalyan ghrita and ghrita with vatanashak aushadi is considered to be highly beneficial.

**6. Shirovasti:** Shirovasti in case of CP patients is usually done with vatanashak oils (Bala taila) for 10,000 mataras (i.e, 53 min) in the evening time.

After the **Panchakarma**, it is useful to adopt **paschat karma** as: 1.Sansarjana karma (Dietic and restorative treatment) 2.Shamana karma (Palliative care)

3.Rasayan karma (Anabolic and rejuvenative and immuno-creative treatment)

❖ Started **Physiotherapy** from the first day of treatment and continued throughout the treatment.

## DISCUSSION

Cerebral palsy presenting with spasticity demands a variety of interventions including Abhyanthara and Bahya Snehana, Swedana, Shodhana, Samana, and Brimhana. Maintain the stability of Jataragni, internally gave Rajanyadichoorna, Aswagandharishta and Shadanga panam, it's also continued throughout the treatment. Aswagandharishta also cures the Karsya and Agnimandya.<sup>[10]</sup> After gradually attaining the Agnibala, gave the internal administration of Snehana with Sahachradi taila and Kalyanaka Ghritha, it is very useful for improving the muscle strength. This Vicharana Snehapana is administered in smaller dosage for a longer period and it relieves the spasticity and boosts the strength of the body. Guloochi satwam is Vatha pitha Samana and helps to improve the general health.<sup>[11]</sup> Considering the Bahya karma, the Udwarthana is the rookshana poorvakarma used with powders of medicines it brings the Rukshana at the level of superficial Dhatus especially at the level of Twak, Raktha, Mamsa and Meda.<sup>[12]</sup> The child is undernourished so need mild Rookshana for 5 days.

Snehana followed by Swedana is one of the prerequisites for any of Sodhana therapy. The Bahya Snehana Swedana procedures are Abhyanga with Ksheeradhoomam, Kayasekam etc. This Snigda Sweda procedure relieves the rigidity of joints, heaviness, and brings proper Snehasweda to the whole body. Siropichu is a topical application of oil on the head especially on the fontanel region for a particular time interval. It is one of the Bahyasnehana procedures.<sup>[13]</sup> This also helps to improve the delayed developmental milestones, vision and reduces the spasticity of joints. Upanaha sweda is one of the Ashtasweda in which medicines are applied in poultice form on the major spastic joints of the upper and lower limbs.<sup>[14,15]</sup> It is covered with Eranda leaves and removed after 6 hours. After attaining the proper Snigdaswedadone Mridu virechana with Sukumaraeranadam. After getting proper Sodhana done Shashtika lepan and Mathravasthi which give more nourishment to the deeper Dhatus.<sup>[16]</sup> Physiotherapy is done in throughout the treatment to improve the range of motion of joints and flexibility of muscles. Here the physiotherapy is mainly concentrated to improve the joint integrity, muscle flexibility, attaining the delayed developmental milestones as early as possible. The other benefits are increased circulation to all four limbs and temporary relief of pain.<sup>[17]</sup> So Multisystem approach, panchakarma along with internal medication should be used to improve all the facets of cerebral palsy. So, in the treatment protocol of CP combination of therapies are highly beneficial.

## CONCLUSION

Cerebral palsy is neither a disease nor a progressive disorder. Focus on what your child can do and how his or her capabilities can be developed to their maximum. It can be incorporated into a clinical variety of Sarvanga vatha as it shows the major symptom the vatarogas or spasticity of muscles which prevent the child from normal motor development. Garbhinicharya which is explained in our classics has got great importance in preventing the diseases. Following the concept of Vathavyadhichikitsa like Sneha, Sweda, Brimhana therapies with appropriate Panchakarma procedures are found to be effective in a better extent. Here the Proper Ayurvedic management along with speech therapy, physiotherapy, and other rehabilitation measures spasticity and help the patient to become self-sufficient. Spastic cerebral palsy can be managed effectively through Ayurveda with a structured protocol.

Be optimistic about your child's progress, yet be realistic when the problems are severe (this is, of course, often a difficult balance to achieve).



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