Role of Ayurveda in the management of Cerebral Palsy – A case study

Vijaykumar U. Gawai¹, Babita B. Mandal², Manish G. Ishwarkar³

1. HOD, Professor,
2. P. G. Scholar,
3. P. G. Scholar,

‘Department of Kaumarbhriya, Government Ayurved College,
Vazirabad, Nanded, Maharashtra, India.

*Corresponding Author: E-mail – drbatismandal111@gmail.com, Mobile no.:8668753781

Abstract
Cerebral Palsy is defined as permanent, non progressive and occasionally evolving, disorders of tone, movement or posture, caused by an insult to the developing brain. It is the most common chronic motor disability in childhood, affecting 2-3 infants per 1000 live births. In Ayurveda there is no single condition or disease which exactly show similarity with Cerebral Palsy. Vata vyadhi is the most similar condition to Cerebral Palsy. Ayurveda mentioned Shodhana and Shamana as two main therapeutic measures in vata vyadhi. The case study being presented is of a 5yr old female patient suffering from diplegic spastic Cerebral Palsy. So, Panchakarma therapy and Shamana chikitsa has been given and assessed on the basis of CNS examination, GMFCS classification and Modified Ashworth scale. The result indicate that the patient improved in presenting features up to 35%-40% as well as daily activities were also performed effectively by her. Ayurvedic treatment modality was effective in improving the milestones of Cerebral Palsy patients.

Keywords – Cerebral palsy, Vatavyadhi, Panchakarma, Shamana, Quality of life.

Introduction
Cerebral palsy is an umbrella term covering a group of non-progressive but often changing motor impairment syndromes secondary to lesions or anomalies of brain arising in the early stage of development. Cerebral palsy is the commonest cause of motor handicap in Indian children after poliomyelitis. Brain growth is nearly complete by 2 years of age. Cerebral palsy is a clinical manifestation of developing brain injury during this period, irrespective of the cause, commonest being adverse perinatal event e.g. prematurity, birth asphyxia etc. Cerebral palsy is classified into 4 types – spastic, ataxic, dyskinetic and mixed. Spastic diplegic Cerebral palsy is bilateral spasticity of the legs that is greater than in the arms. Spastic diplegia is strongly associated with damage to the immature white matter during the vulnerable period of immature oligodendroglia between 20-34 weeks of gestation.

There is no exact correlation found for Cerebral palsy in Ayurvedic literature. Most of the authors considered Cerebral palsy as Vatavyadhi. Spastic Cerebral palsy can be considered as avaranjanya vatavyadhi or kaphavritta vatavyadhi. According to Ayurveda Etiological factors like inappropriate Ritu (ovulation cycle),
Kshetra (uterus), Ambu (amniotic fluid), Bija (sperm, ovum), presence of Garbhopaghatkara bhava (normal requisites for growth and development of fetus), incompatible Garbhvriddhikarabhava (substance which can cause defect in fetus) etc. these factors may have effects on growth and development of fetus leading to many diseases.

The ayurvedic diagnosis of the present case was Shiromarmaabhighatasankochjanya vatavyadhi. Considering all above, we have formulated an Ayurvedic therapy protocol to improve the condition of Cerebral palsy patients.

Place of study – Paediatric ward, Government Ayurved College, Nanded, Maharashtra

Patient consent – Written consent for publication of this case study had been obtained from the patients parents.

Case Report -
Name – XYZ
Date of birth – 14/02/2014
Age & Sex – 5 years & Female
OPD no. – 113678
IPD no. – 6480
Religion – Hindu
Socio-economical status- Middle class

Chief complaints – Patient was unable to stand and walk without support, unable to speak, delayed global developmental milestones, spasticity in both limbs (lower limb > upper limb), squint in both eyes.

History of present illness – A 5 years FCH patient brought by his parents to Paediatric OPD of GAC Nanded, having above mentioned complaints, they had taken Allopathy medicine for 2 years but didn’t get relief.

Family history – No history of consanguinity
Birth history – Preterm (30 weeks) twin pregnancy delivered vaginally with birth weight 1.75kg. Baby was not cried immediately after birth. Seizures developed on 3rd day of life. History of NICU management for 15 days.

Immunization history – Given as per Government schedule.

General examination – Respiratory system – air entry bilateral symmetrical, Cardiovascular system – S1 and S2 normal, per abdomen – soft, non-tender, Vitals are stable.

Central nervous system examination –
Posture – Decorticate posture
Gait – Ataxic gait
Mood – Irritable
Level of consciousness – Conscious
Bulk of muscle – decreased in both leg muscles

Abnormal movements – tremors in standing position.

Tone – hypertonic in all 4 limbs (lower limb>upper limb)

Deep tendon reflexes – Upper limb

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Lower limb

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Muscle power grade

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Gross motor function classification system – Level III - Patient was able to walk with physical assistance.

Modified Ashworth scale score –
Lower limbs - 2 – more marked increase in muscle tone through most of the range of motion, but lower limbs easily moved
Upper limbs – 1+ - minimal resistance throughout the less than half of the range of motion

Investigation –
MRI Findings on date 14/08/2017 – Cerebral and cerebellar atrophy, Periventricular leukomalacia.
BERA findings on date 31/10/2019 – Bilateral mild hearing loss.
Diagnosis – Spastic diplegic cerebral palsy
Treatment Protocol –
Total duration – 50 days as given below,
5 days Deepana-pachana followed by 8 days sarvaanga abhyanga, swedana, yogabasti and pratimarsha nasya.
Total 3 course of this 13 days schedule with 5 days interval in between.
Deepan-pachana – with Hingwashtak churna – 1gm – 2 times a day with ghrita and Syrup Aamdoshtak 5ml – 2 times a day for 5days
Snehana – Sarvaanga snehana with Bala taila for 30 minutes.
Swedana – Shashtikashali pindasweda – Shashtikashali (a variety of rice) is cooked with milk and decoction of herbs (aswagandha, bala, dashmoola)
Yogabasti – Total duration 8 days, in which 3 sets of alternate anuvasana and aasthapana basti followed by last 2 anuvasana basti were given.
Anuvasana basti was given with 40ml tila taila
Aasthapana basti was given with 160ml Mustadiyapanbasti.
Pratimarsha nasya – with panchendriyavardhan taila
Internal medications –
Hingwashtak churna – 1gm – 2 twice a day with ghrita before meal,
Brahmi ghrita 5ml – twice a day with lukewarm water as anupana after meal,
Saraswatarishtam with Suvarna - 5ml twice a day after meal,
Shatavari kalpa 5gm – twice a day with milk after meal.
Assessment after treatment –
The improvement was assessed by using General examination, CNS examination, GMFCS classification and Modified Ashworth scale they are as follows –
General examination – Patient is able to stand independently and walk without support up to 200-250meter distance. She can speak monosyllables words and reacting to familiar voice.
GMFCS classification – Before treatment - III – Patient was able to walk with physical assistance.
After treatment - II – patient can walk without support up to 200-250meter distance. She has minimal ability to perform gross motor skills such as running. Modified Ashworth scale –
Before treatment -
Lower limbs - 2 – more marked increase in muscle tone through most of the range of motion, but lower limbs easily moved
Upper limbs – 1+ - minimal resistance throughout the less than half of the range of motion
After treatment –
Lower limbs – 1+ - minimal resistance throughout the less than half of the range of motion
Upper limbs - 1 – minimal resistance at the end of the range of motion when upper limbs flexed

Discussion –
Cerebral palsy is a group of disorders of development of movement and posture causing limitation of activity. Vatavyadhi is most similar condition to Cerebral palsy. Hence management of vatavyadhi was adopted to treat this case. Abhyanga reduces increased muscle tone, improves muscle bulk and power. Massage improves blood supply to muscles, relieves muscular fatigue and reduces stiffness. Modified Ashworth scale shows 35%-40% improvement in spasticity. Shashtikashali pindasweda increases the blood flow locally, relieve muscle spasm, increase tendon extensibility. Shashtikashali (rice) is snigdha, bala vardhak and deha dardhyakrita. Heat, massage and pressure nourishes muscle and stimulate nerve endings. Basti is most widely used and highly effective treatment modality for treating neurological disorders. It is excellent for elimination of doshas and nourishment of...
the body. It promotes bala, varna, harsha, mardavata and snehana in the body.

Conclusion -
Cerebral Palsy is a multifactorial disease with clinical features of wide variation. It has no proven therapeutics in modern medicine. Cerebral palsy can be incorporated into clinical variety of vitiated vata dosha as it shows the major symptoms like spasticity of muscles which prevent the child from normal motor development. The above-mentioned treatment protocol is effective in improving the signs and symptoms in patient of Spastic Cerebral Palsy. In this patient overall effect was found near about 35%-40%. As this disorder is incurable, if we are able to make small improvements in their quality of life it will reflect as a major benefit. So, we can conclude that Ayurvedic panchkarma therapy with internal medication like Medhya and Balya drugs are effective in improving the clinical condition of patient with Spastic cerebral palsy.

References

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