

## Ayurvedic approach towards Cerebral Palsy

SHAILAJA U. \* C. M. JAIN \*\*

SDM College of Ayurveda, Hassan, Karnataka.

**ABSTRACT :** Cerebral Palsy is the leading cause of childhood disability affecting function and development. Its prevalence is approximately 1.5-2 cases per 1000 live births. Its incidence has not changed in the last more than 4 decades, despite significant advances in the medical care of neonates. Nearly 15-20 % of total physically handicapped children suffer from Cerebral Palsy. It is a condition which cripples the child during the course of growth and development. Based on its *Lakshanas*, the chief *Dosha* involved in Cerebral Palsy is identified as *Vata*, hence *Nidana-panchaka* are evolved accordingly and this disorder can be managed on the line of treatment of *Vata Vyadhi*.

**Key words :** Cerebral Palsy, *Vatavyadhi*, *Nidana-panchaka*.

### INTRODUCTION

Cerebral Palsy is a static encephalopathy that may be defined as a non-progressive disorder of posture and movement often associated with epilepsy and abnormalities in speech, vision and intellect resulting from a defect or lesion of the developing brain. It is a common disorder with a prevalence of 2/1000 population<sup>1</sup>. There are 25 Lakhs Cerebral Palsy affected children in India<sup>2</sup>. The aetiology may originate during antenatal, perinatal and neonatal period. The pathology lies in developing brain mainly cerebrum, brainstem, gyri, middle cerebral artery, thalamus, basal ganglia, cerebellum etc.

The etiology of Cerebral Palsy mainly relates to the antenatal and perinatal causes, but neonatal causes such as septicemia, meningitis, encephalitis, head injury and infections are also clinically equally important. *Badhiryata* (deafness) and *Mookata* (dumbness) are classified under *Janma Bala Pravritti Vyadhi* and same are also presenting features of cerebral palsy. In some cases it may also be *Dosha Bala Pravritta Vyadhi*.

Consequently, Cerebral Palsy may also be considered as *Shiro-Marmabhighataja Bala Vata Vyadhi*, which may manifest itself in any of the following main clinical presentation such as spastic monoplegia (*Ekanga Roga*), hemiplegia (*Pakshavadha*), spastic diplegia (*Pangu*), spastic quadriplegia (*Sarvanga Roga*), choreoathetoid (*Vepathu*) and ataxia, which are described under *Vata Vyadhi* in the texts. *Nidana*, *Samprapti* and *Lakshanas* of all these *Vata Vikaras* are taken here generally for *Shiromarmabhighataja*

*Vata Vyadhi* (Cerebral Palsy). *Marmaghata* is one of the causes of *Vata Vikara*. *Charaka* while describing *Shiromarmabhighata* has mentioned many *Vata Vikaras* such as *Chesta-Nasha*, *Gadgadta*, and *Sadata* including mental impairment<sup>3</sup>. Therefore it may be called as *Bala Vata Vyadhi*. The line of treatment to be adopted in such cases also is similar to *Vata Vikara*, such as *Sneha*, *Sveda*, *Abhyanga*, *Basti*, *Sneha Virechana*, *Shirosneha*, *Nasya* etc.<sup>4</sup>

### Concept of *Nidanapanchaka* of Cerebral Palsy :

Cerebral Palsy cannot be correlated with any single disease or condition, as it is a multi-factorial disease. However, considering the classification and their respective features, Cerebral Palsy can be compared with *Shiromarmabhighataja Vatavikara* or *Vata Vyadhi*. Cerebral Palsy is a *Shiro Marmabhighataja Vata Vikara*, which may manifest itself in any of the following form like *Pakshaghata*, *Ekangaroga*, *Pangu*, *Sarvangaroga* etc.

Features of the above *Vata Vyadhi* are mainly related to *Prana Vayu* the seat of which is '*Shiras*' (*Mastishka Mastulunga Majja*).<sup>5</sup> It is also described in *Ayurvedic* literature that any injury (*Doshajabhighata Bahyabhighata*) to the seat of *Prana Vayu* can cause impairment of motor and sensory activities and such other diseases including mental derangement.<sup>6</sup> *Shiromarmabhighata* may occur during formative stage *Sahaja* or *Adibala Pravritta*, during foetal life as *Janmabalapravritta*, during delivery as *Sanghatha Bala Pravritta* or during neonatal period as *Doshabala Pravritta* or *Daivabala Pravritta*. *Nidana*, *Samprapti* and *Lakshanas* of all these *Vata Vikaras* are taken here generally for *Shiromarmabhighata Vata Vikara* (Cerebral Palsy).

\* Professor & HOD, Dept. of Kaumarabhritya, SDM College of Ayurveda, Hassan, Karnataka 573 201.

\*\* Associate Professor and HOD, Department of Prasuti Tantra and Stree Roga, National Institute of Ayurveda, Jaipur.

**Nidana :**

Cerebral Palsy can occur during pregnancy (about 75%), during childbirth (about 5%) or after birth (about 15%) up to about age three. The causes of Cerebral Palsy remain unclear. Some causes of Cerebral Palsy are asphyxia, hypoxia of the brain, birth trauma, premature birth, and certain infections in the mother during and before birth such as central nervous system infections, trauma, consecutive hematomas, abruptio placenta and multiple births. In *Ayurveda* it can be interpreted as follows.

**Garbha Poorva Nidana :**

**Tulya Gotra Vivaha :** It leads to continuation of familial disorders like *Unmada*, *Apasmara* etc., resulting in interruption in normal growth & development of a child.<sup>7</sup>

**Beeja Dushti :** *Beejadushti* is considered to be one of the causes for teratological abnormalities. If the part of the *Beeja* (ovum or sperm) which are responsible for the formation of particular organ is vitiated, respective organs will be defective.<sup>8</sup> If the *Beeja Bhaga* & *Beeja Bhagavayava*, which is responsible for the formation of *Mastulunga* is vitiated it may result in defect in *Mastulunga* of foetus.

**Ashaya Dushti :** Healthy and proper functioning *Kshetra* is responsible for successful conception. Vitiating/*Dushti* of *Kshetra-Garbhashaya* may lead to deformity in child. Structural deformity in reproductive organs may lead to improper development leading to fetal abnormality.<sup>9</sup>

**Kala Dushti :** *Kala* can be considered in three different meanings viz (i) age factor of parents (ii) time of conception (iii) *Ritukala*.

(i) Age factor of parents : *Acharyas* in the classics have made clear opinion about ideal age for *Garbhadana* i.e. 21-25 years for male & 16 years for female.<sup>10</sup> When age of lady during *Garbhadharana* is below 16 years then foetus may not get good nourishment & may undergo intrauterine growth retardation. If the mother is too elderly at the time of conception there are more chances of genetic aberrations and diseases of mother may get transferred to the foetus.<sup>11</sup> Hence age factor of mother plays an important role in growth and development.

(ii) Time of conception : Generally *Visarga Kala* is considered as *Balavan* than *Adana Kala* and if conception occurs during *Adana Kala* then child may suffer with *Avara Shakti* throughout his life leading to repeated attacks of diseases resulting in interruption of growth & development.<sup>12</sup>

(iii) *Ritukala* : Zygote that forms from an ovum which is not fully grown for 14 days may exhibit weakness

and such child developing from that ovum may suffer from development disabilities.

**Atma Karma :** *Akriti* (growth) and *Buddhi* (intellectual faculties - development) depends upon *Rajas*, *Tamas* and *Atmakarma* (past actions). Even with *Sarvasampata* (*Shukra*, *Shonita* etc.), sometimes a child may be born with Cerebral Palsy, where *Atmakarma Dushti* can be considered as etiology. Hence *Atma Karma Dushti* may cause congenital deformity in the foetus.<sup>13</sup>

**Garbha Kaleena Nidana :** Right from the conception upto delivery several factors contribute as *Nidana* for Cerebral Palsy. They are as follows :

**Improper Garbhini Paricharya :** (*Garbhopaghata* *Bhavas*) *Garbhini Paricharya* is a code of conduct for a pregnant lady in terms of *Ahara* and *Vihara*.

**Asatmya and Ahitkara Ahara Sevana :** Mainly *Vatala Ahara Vihara* consumed by pregnant lady may cause the condition like *Pangu*, *Kubja*, *Andha*, *Jada*, *Vamana* etc. in born baby.<sup>14</sup> As *Pangulya*, *Jadata*, having similar features of Cerebral Palsy we may consider *Vatala Ahara Vihara* as a causative factor. *Asatmyakara Ahara* like *Madya Sevana*, *Madakara Aushadha Sevana*, *Viruddha Ahara Sevana* etc., may lead to vitiating of *Doshas* specially *Vata Vriddhi* resulting in *Garbha Dushti* & further it leads to developmental disability.<sup>15</sup>

**Ahitkara Vihara :** It includes excessive indulgence in *Vyavaya*, *Vyayama*, *Nidra*, *Jagarana*, *Upavasa*, *Chinta*, *Bhaya*, *Shoka* and traveling on uneven surfaces. These may lead to *Vata* vitiating in turn causing injury in developing brain of the foetus.

**Daurhuda Apachara :** Non-fulfilment of longings during pregnancy may lead to both *Sharirika* and *Manasika Vikaras* like *Kubja* (hump backed), *Kuni* (crooked armed), *Pangu* (lame), *Mooka* (dumb), *Minmina* (nasal voiced) child,<sup>16</sup> which are similar features of Cerebral Palsy.

**Krimi & Jataharinis :** Certain infections are considered as important factors responsible for *Garbha Vichyuthi*. In broad sense, it can be compared to pre and perinatal infections of pregnant lady, which affect the growth & development of a child.<sup>17</sup> Certain infections (*Jataharinis* etc.) like rubella may even cause deformities in children.

**Abhigata :** *Abhigata* can be interpreted in two ways i. e. *Sharirika* and *Manasika*. *Sharirika Abhigata* like accidents, fall etc. cause accidental haemorrhage in placenta. Environmental injuries like

repeated exposure to X-ray etc. may cause injury to the foetus in terms of abnormality of genes leading to Cerebral Palsy. *Mano Abhighata* like *Bhaya*, *Dukha*, *Chinta*, *Shoka* etc., leads to *Vata Vriddhi* which in turn may cause Cerebral Palsy.

**Dhumapana :** During pregnancy if a lady indulges in excess *Dhumapana* foetus is supposed to be affected severely by the sharpness of smoke. The child may become *Kuni*, *Andha*, and *Durbalendriya*. This is discussed while mentioning contraindications of some measures in *Garbhini Jwara* by *Acharya Kashyapa*.<sup>18</sup> Modern medicine has identified tobacco smoking to bring developmental abnormalities.

**Vataprakopa :** All such causes described as provocative of *Vata* can lead to vitiation of *Vata* situated in *Mastishka* of foetus and may possibly lead to *Shirobhighata Vata Vikara* such as above. *Vataprakopa* during pregnancy is said to produce conditions like *Kubja*, *Kuni*, *Pangu*, and *Mooka*,<sup>19</sup> which are common features of Cerebral Palsy.

Thus, various factors during pregnancy may contribute for Cerebral Palsy.

**Prasava Kaleena Nidana :** It includes the following.

**Vilambita Avi :** *Vilambita Avi* means prolonged and weak uterine contractions, which delay the process of delivery & it affects both mother as well as child. Mother gets distressed when foetus gets asphyxiated due to *Vilambita Avi*, and this may lead to injury to the neurons in brain of foetus causing developmental delay.<sup>20</sup>

**Akala Pravahana :** Bearing down efforts in the absence of true labour pain is called as *Akala Pravahana*. *Akala Pravahana* by *Garbhini* causes *Badhirata*, *Mookata*, and *Vyasthanu Moordhnabhighata* etc. in born baby.<sup>21</sup> Absence of efforts to bear down during labour pain & efforts in the absence of true labour pain, which may lead to *Vikrithi* in born baby.<sup>22</sup> All birth injuries are described in *Ayurveda* under this heading.

**Moordhabhighata :** *Moordhabhighata* is result of *AkalaPravahana*.<sup>23</sup> *Moordhabhighata* can be considered as *Shiromarmabhighata*, which leads to *Ardita*, *Samjnanasha*, *Mookatha*, *Gadgadata* and *Lalasarava* etc. *Vata Vyadhi*.<sup>24</sup>

**Prasavottara Kaleena Nidanas :**

Brain is said to be undergo the process of active development till 2-3 years of age. During this period any incidents, which hamper this process, definitely may result into developmental delay. They are as follows:

**Delayed Prana Pratyagamana :** Immediately after delivery of a child *Prana Pratyagamana* is advised to save the life of a child and to facilitate the baby with *Ambara Peeyusha*. If this process gets delayed then baby may undergo Cerebral Palsy. Delay in respiration with poor APGAR score & even forced excess oxygenation may lead to ventricular damage in brain may lead to Cerebral Palsy.

**Stanya Dushti :** *Stanya Dushti* may occur because of several reasons but when *Stanya* is particularly vitiated by *Kapha*, and consumption of this *Stanya* by the infant may cause *Kapha Vriddhi* leading to blocking of *Rasavaha Srotas* & *Manovaha Srotas* resulting in impaired cognition of knowledge i.e., *Jada*.<sup>25</sup> *Tridosha Dustha Stanya* may lead to conditions like *Pangu*, *Jadata* and *Mookata*.<sup>26</sup> These are seen in Cerebral Palsy.

**Effect of Grahas :** *Grahas* like *Skanda*, *Skandapasmara* and *Mesha* make the child permanently handicapped. Central nervous system infection such as pyogenic meningitis which causes brain damage later leads to Cerebral Palsy.

**Effect of Nija and Agantuja disorders :** Diseases like *Jwara*, *Atisara*, *Pandu*, etc. may cause *Vyadhi Sambhava Phakka* resulting in condition simulating Cerebral Palsy.<sup>27</sup> Certain metabolic disorders as well as cerebral malaria etc. may lead to damage neurons which in turn may simulate Cerebral Palsy.

**Samprapti :**

*Samprapti* of Cerebral Palsy is different from any other disorders, because there are different causative factors at different stages and they contribute their own impact on *Samprapti*. The *Ahara* and *Vihara* of the parents causing *Vikruti* of *Vata* is likely to affect *Artava* or *Shukra*, which may lead to the vitiation in *Panchtanmatras* leading to *Khavaigunya* or *Sroto Dushti* of *Mastulunga Majja*. This in turn results in *Khavaigunya* or *Dushti* of *Mastulunga Majja* of the foetus or *Garbha*. This may also occur due to *Atma Karma* of the past life of developing *Garbha*. Another possibility of vitiation of *Garbha Mastulunga Majja* is by *Nidanas* like *Dauhruda Avamana*, *Garbopaghatakara Ahara Vihara*, *Dhumpana*, and *Madyapana* etc. of the mother during her pregnancy. These can affect *Poshaka Rasa*, which in turn affect the developing *Mastulunga Majja* of the foetus. The third possibility of *Mastulunga Majja* of *Shishu* getting afflicted in *Vilambita Avi*, *Akala Pravahana*, and *Murdhabhighata* during *Prasava kala*.

*Dushta Stanya Pana* and *Jvara* in *Grahas* like *Skanda* etc. may act as precipitating causes which trigger the site of *Khavaigunya* for an early onset of *Shiromarmabhighatajanya Vata-vikara*.

As *Shiras* is considered as *Moola* for *Prana*, *Indriya* and *Manas*<sup>28</sup> any *Shiromarmabhighata* either in the form of *Bahya* or *Abhyantara Nidana* may lead to *Vata Vriddhi*.<sup>29</sup> *Pranavata Vikruti* can ultimately cause disturbance of other kinds of *Vata* and also mental functions as *Prana Vata* has control over both *Manas* and other kinds of *Vata*<sup>30</sup> and depending on the site of injury in the *Mastulunga Majja* clinical features like *Pakshaghata*, *Sarvangaroga*, *Ardita*, *Pangu*, *Jadatva*, *Kampavata*, *Andhatva*, and *Badhirya* are manifested. Cerebral Palsy can be considered as *Shiromarmabhighataja Vata Vyadhi*.

#### **Samprapti Ghataka :**

<i>Dosha</i>	: <i>Vata Pradhana Tridosha</i>
<i>Dushya</i>	: <i>Rasa, Rakta, Mamsa, Majja, Shukra</i>
<i>Srotas</i>	: <i>Pranavaha Srotas, Manovaha Srotas</i>
<i>Adhishtana</i>	: <i>Shiras, (Mastulunga Majja)</i>
<i>Vyakta Sthana</i>	: <i>Sarva Shareera</i>
<i>Dushtiprakara</i>	: <i>Sanga</i>
<i>Rogamarga</i>	: <i>Madhyama</i>
<i>Vyadhi Swabhava</i>	: <i>Chirakari</i>
<i>Sadhyasadhya</i>	: <i>Yapya / Asadhya</i>

#### **Lakshana :**

A comparison of classification of Cerebral Palsy and *Vata-Vikaras*, which are described in *Ayurvedic* literature and have been considered, is given below.

Types of Cerebral Palsy	<i>Vata Nanatmaja Lakshana</i>
<b>A) Spastic</b>	
Hemiplegia	- <i>Pakshaghata</i>
Diplegia	- <i>Pangu</i>
Monoplegia	- <i>Ekanga Roga</i>
Quadriplegia	- <i>Sarvanga Roga</i>
<b>B) Choreoathetosis</b>	- <i>Kampavata</i>
<b>C) Hypotonic</b>	- <i>Angasada</i>

*Vata Vyadhis* like *Khanjatva* (lameness), *Vamanatva* (short stature), *Mookatva* (aphasia), *Vaksanga* (lalling speech), *Badhirya* (deaffness), *Akshepaka* (convulsion) and *Vepatu* etc. are the associated symptoms seen in Cerebral Palsy.

*Pakshavadha* : When aggravated *Vayu* causes *Abhighata* to *Indriyas* of one side of *Mastulunga Majja* either on right or left, paralysis the contra lateral side of the body by causing *Karmahani* occurs.<sup>31</sup>

*Pangutva* : *Pangutva* means paralysing or *Karmahani* of both the lower limbs. After vitiating part of *Mastulunga Majja*, *Vayu* takes seat in *Katipradesh* and constricts *Sira*, *Snayu* etc. and paralysis the legs. Here again *Prana Vayu* causes damage to the *Karmendriya* (legs).<sup>32</sup>

*Ekanga Roga* : Aggravated *Vata* may cause injury to the part of *Mastulunga Majja* and causes constriction of *Sira*, *Snayu* with contractures of either one leg or one hand.

*Sarvanga Roga* : This condition is due to severe and extensive injury to the *Moolasthanas* of *Indriyas* which causes constriction of the *Snayus*, *Sira* etc. The contractures occur in all the four limbs and the morbidity pervades entire body.<sup>33</sup>

*Kampavata* : A generalized involuntary movement of all parts of the body is called *Kampavata* and may be produced due to injury to subcortical neurons that is *Shiromarmas*.<sup>34</sup>

*Mookata*, *Minminata*, *Gadgadata* & *Badhirata* : Different speech disorders & deafness are observed due to *Udana Vata Vikriti*.

#### **Chikitsa :**

“Prevention is better than cure”. This proverb holds well in Cerebral Palsy because as such perfect or definite cure for this condition is difficult to provide.

Management of Cerebral Palsy is divided into two measures.

- (1) Preventive measures
- (2) Specific measures.

**Preventive Measures** : These can be subdivided into following heads.

#### **Before Conception:**

- ♦ By avoiding consanguineous marriages the congenital anomalies can be minimized.
- ♦ By following the rules & regulations during *Ritu Kala* as laid down in the texts.

#### **During Pregnancy :**

- ♦ By following the principles of antenatal care (*Garbhiniparicharya*).
- ♦ Avoiding of *Garbhopaghatakara Bhavas*.

- ◆ Honocrling of *Dauhrida* (desires of pregnant lady).
- ◆ Avoiding *Madya*, *Dhumapana*.

#### **During Labour :**

- ◆ The education regarding bearing down efforts is very much important, because undue straining by woman may exhaust her.
- ◆ By avoiding any *Moordhabhigata* (cranial injury) during labour.
- ◆ By preventing infections during management of delivery.

#### **During Neonatal period :**

- ◆ *Pranaprathyagamana* (neonatal resuscitation), *Jatakarma*, *Rakshakarma*, *Dhupanakarma*, *Dharana* is to be done properly. Specific measures such as use of *Medhya Rasayanas*, *Vatahara Panchakarma*, *Kriyakalpa* procedures are adopted.

#### **REFERENCES**

1. Nair M.K.C. & Ranjan Kumar Pejaver : Child Development 2000 and Beyond. Published by Prism books pvt ltd. Bangalore. 2000, pp 9
2. Anjaiah B : Clinical Pediatrics, Published by Paras Medical Publisher, Hyderabad, 3rd edition, 2006, pp. 230
3. Agnivesha : Charakasamhita, Volume II with Charaka Chandrika, Hindi translation by Brahmanand Tripathi, Published by Chaukhambha Sanskrit Prakashan, Varanasi, reprint 2004, Siddhi Sthana, 9:6, pp 717.
4. Sushruta : Sushruta Samhita, Part II with Ayurveda Tattva Sandipika Hindi translation by by Kaviraja Ambikadatta Shastri, Published by Chaukhambha Sanskrit Sansthan, Varanasi, 14<sup>th</sup> edition, 2003, Chikitsa Sthana, 4:21.
5. Agnivesha : Charakasamhita, Volume I with Charaka Chandrika, Hindi Commetary Edi. by Brahmanand Tripathi, Published by Chaukhambha Sanskrit Prakashan, Varanasi, reprint 2004, Sutra Sthana, 17: 12
6. Agnivesha : Charakasamhita, Volume II with Charaka Chandrika, Hindi translation by Brahmanand Tripathi, Published by Chaukhambha Sanskrit Prakashan, Varanasi, reprint 2004, Siddhi Sthana: 9:6, pp 717.
7. Agnivesha : Charakasamhita, Volume I with Charaka Chandrika, Hindi Commetary Edi. by Brahmanand Tripathi, Published by Chaukhambha Sanskrit Prakashan, Varanasi, reprint 2004, Sharira Sthana, 2:3
8. Agnivesha : Charakasamhita, Volume I with Charaka Chandrika, Hindi Commetary Edi. by Brahmanand Tripathi, Published by Chaukhambha Sanskrit Prakashan, Varanasi, reprint 2004, Sharira Sthana, 4:31
9. Agnivesha : Charakasamhita, Volume I with Charaka Chandrika, Hindi Commetary Edi. by Brahmanand Tripathi, Published by Chaukhambha Sanskrit Prakashan, Varanasi, reprint 2004, Sharira Sthana, 2:6
10. Sushruta : Sushruta Samhita, Part I with Ayurveda Tattva Sandipika Hindi Commentary, Edi. by Kaviraja Ambikadatta Shastri, Published by Chaukhambha Sanskrit Sansthan, Varanasi, 14<sup>th</sup> edition, 2003, Sharira Sthana, 10:42.
11. Sushruta : Sushruta Samhita, Part I with Ayurveda Tattva Sandipika Hindi Commentary, Edi. by Kaviraja Ambikadatta Shastri, Published by Chaukhambha Sanskrit Sansthan, Varanasi, 14<sup>th</sup> edition, 2003, Sharira Sthana, 10:58
12. Agnivesha : Charakasamhita, Volume I with Charaka Chandrika, Hindi Commetary Edi. by Brahmanand Tripathi, Published by Chaukhambha Sanskrit Prakashan, Varanasi, reprint 2004, Sharira Sthana, 6:13
13. Agnivesha : Charakasamhita, Volume I with Charaka Chandrika, Hindi Commetary Edi. by Brahmanand Tripathi, Published by Chaukhambha Sanskrit Prakashan, Varanasi, reprint 2004, Sharira Sthana, 3:10; Vaghabhata : Astanga Sangraha Vol. I, with English Translation by Prof. K.R. Srikant Murthy, Published by Chaukhambha Orientalia, Varanasi, 1<sup>st</sup> edition, 1996, Sharira Sthana, 5:16; Sushruta : Sushruta Samhita, Part I with Ayurveda Tattva Sandipika Hindi Commentary, Edi. by Kaviraja Ambikadatta Shastri, Published by Chaukhambha Sanskrit Sansthan, Varanasi, 14<sup>th</sup> edition, 2003, Sharira Sthana, 3:16; Vaghabhata : Astanga Hridaya, with Sarvanga Sundara commentary by Arunadatta & Ayurvedarasayana of Hemadri, Edited by Pt Hari Sadashiva Sastry, Published by Chaukamba Surabharathi Prakashana, Varanasi. Sharira Sthana : 3:5.
14. Vagabhata : Ashtanga Hridaya, with Sarvanga Sundara commentary by Arunadatta & Ayurvedarasayana of Hemadri, Edited by Pt Hari Sadashiva Sastry, Published by Chaukamba Surabharathi Prakashana, Varanasi. Sharira Sthana, 1:48; Sushruta : Sushruta Samhita, Part I with Ayurveda Tattva Sandipika Hindi Commentary, Edi. by Kaviraja Ambikadatta Shastri, Published by Chaukhambha Sanskrit Sansthan, Varanasi, 14<sup>th</sup> edition, 2003, Sharira Sthana, 2:54.
15. Sushruta : Sushruta Samhita, Part I with Ayurveda Tattva Sandipika Hindi Commentary, Edi. by Kaviraja Ambikadatta Shastri, Published by Chaukhambha Sanskrit Sansthan, Varanasi, 14<sup>th</sup> edition, 2003, Sharira Sthana, 2:55; Vaghabhata : Astanga Hridaya, with Sarvanga Sundara commentary by Arunadatta & Ayurvedarasayana of Hemadri, Edited by Pt Hari Sadashiva Sastry, Published by Chaukamba Surabharathi Prakashana, Varanasi. Sharira Sthana, 1:48.
16. Sushruta : Sushruta Samhita, Part I with Ayurveda Tattva Sandipika Hindi Commentary, Edi. by Kaviraja Ambikadatta Shastri, Published by Chaukhambha Sanskrit Sansthan, Varanasi, 14<sup>th</sup> edition, 2003, Sharira Sthana, 3:18.
17. Sushruta : Sushruta Samhita, Part I with Ayurveda Tattva Sandipika Hindi Commentary, Edi. by Kaviraja Ambikadatta Shastri, Published by Chaukhambha Sanskrit Sansthan, Varanasi, 14<sup>th</sup> edition, 2003, Nidana Sthana, 8:11
18. Vridhajeekava : Kashyapa Samhita, translated by Pandit Hemaraj Sharma, published by Chaukhambha Sanskrit Sansthan, Varanasi, 4<sup>th</sup> edition, 1988, Khila Sthana, 10:20-21.
19. Agnivesha : Charakasamhita, Volume I with Charaka Chandrika, Hindi Commetary Edi. by Brahmanand Tripathi, Published by Chaukhambha Sanskrit Prakashan, Varanasi, reprint 2004, Sutra Sthana, 25:40; Agnivesha : Charakasamhita, Volume I with Charaka Chandrika, Hindi Commetary Edi. by Brahmanand Tripathi, Published by Chaukhambha Sanskrit Prakashan, Varanasi, reprint 2004, Sharira Sthana, 4:18; Sushruta : Sushruta Samhita, Part I with Ayurveda Tattva Sandipika Hindi Commentary, Edi. by Kaviraja Ambikadatta Shastri, Published by Chaukhambha Sanskrit Sansthan, Varanasi, 14<sup>th</sup> edition, 2003, Sharira Sthana, 10:2.
20. Vridhajeekava : Kashyapa Samhita, translated by Pandit Hemaraj Sharma, published by Chaukhambha Sanskrit Sansthan, Varanasi, 4<sup>th</sup> edition, 1988, Sharira Sthana, Jatisutriya 5: 30.

21. Sushruta : Sushruta Samhita, Part I with Ayurveda Tattva Sandipika Hindi Commentary, Edi. by Kaviraja Ambikadatta Shastri, Published by Chaukhambha Sanskrit Sansthan, Varanasi, 14<sup>th</sup> edition, 2003, Sharira Sthana, 10:9.
22. Agnivesha : Charakasamhita, Volume I with Charaka Chandrika, Hindi Commetary Edi. by Brahmanand Tripathi, Published by Chaukhambha Sanskrit Prakashan, Varanasi, reprint 2004, Sharira Sthana, 8:40.
23. Agnivesha : Charakasamhita, Volume I with Charaka Chandrika, Hindi Commetary Edi. by Brahmanand Tripathi, Published by Chaukhambha Sanskrit Prakashan, Varanasi, reprint 2004, Sutra Sthana, 10:9.
24. Agnivesha : Charakasamhita, Volume II with Charaka Chandrika, Hindi translation by Brahmanand Tripathi, Published by Chaukhambha Sanskrit Prakashan, Varanasi, reprint 2004, Siddhi Sthana, 9:6.
25. Agnivesha : Charakasamhita, Volume II with Charaka Chandrika, Hindi translation by Brahmanand Tripathi, Published by Chaukhambha Sanskrit Prakashan, Varanasi, reprint 2004, Chikitsa Sthana, 30:245.
26. Vridhajeevaka : Kashyapa Samhita, translated by Pandit Hemaraj Sharma, published by Chaukhambha Sanskrit Sansthan, Varanasi, 4<sup>th</sup> edition, 1988, Chikitsa Sthana, Phakka Roga Adhyaya, 17:4
27. Vridhajeevaka : Kashyapa Samhita, translated by Pandit Hemaraj Sharma, published by Chaukhambha Sanskrit Sansthan, Varanasi, 4<sup>th</sup> edition, 1988, Chikitsa Sthana, Phakka Roga Adhyaya, 17:12-20
28. Agnivesha : Charakasamhita, Volume I with Charaka Chandrika, Hindi Commetary Edi. by Brahmanand Tripathi, Published by Chaukhambha Sanskrit Prakashan, Varanasi, reprint 2004, Sharira Sthana, 17:12; Vaghabhata : Astanga Hridaya, with Sarvanga Sundara commentary by Arunadatta & Ayurvedarasayana of Hemadri, Edited by Pt Hari Sadashiva Sastry, Published by Chaukamba Surabharathi Prakashana, Varanasi. Sutra Sthana, 12:14.
29. Agnivesha: Charakasamhita, Volume II with Charaka Chandrika, Hindi translation by Brahmanand Tripathi, Published by Chaukhambha Sanskrit Prakashan, Varanasi, reprint 2004, Siddhi Sthana, 9:6.
30. Vridhajeevaka : Kashyapa Samhita, translated by Pandit Hemaraj Sharma, published by Chaukhambha Sanskrit Sansthan, Varanasi, 4<sup>th</sup> edition, 1988, Khila Sthana, 10:10.
31. Agnivesha : Charakasamhita, Volume II with Charaka Chandrika, Hindi Commetary Edi. by Brahmanand Tripathi, Published by Chaukhambha Sanskrit Prakashan, Varanasi, reprint 2004, Chikitsa Sthana, 28:53.
32. Sushruta : Sushruta Samhita, Part I with Ayurveda Tattva Sandipika Hindi Commentary, Edi. by Kaviraja Ambikadatta Shastri, Published by Chaukhambha Sanskrit Sansthan, Varanasi, 14<sup>th</sup> edition, 2003, Nidana Sthana, 1:77.
33. Agnivesha : Charakasamhita, Volume II with Charaka Chandrika, Hindi Commetary Edi. by Brahmanand Tripathi, Published by Chaukhambha Sanskrit Prakashan, Varanasi, reprint 2004, Chikitsa Sthana, 28:155.
34. Madhavakara : Madhavnidana with Vimala and Madhudhara commentary, edited by Brahmanand Tripathi, published by Chaukhambha Surabharati Prakashan, reprint 2005, 74:1

## हिन्दी सारांश

### सेरेब्रल पाल्सी पर आयुर्वेदिक दृष्टिकोण

शैलजा यु. एवं सी. एम. जैन

बाल्यजीवन के अंतर्गत विकलांगता का एक मुख्य कारण सेरेब्रल पाल्सी है। लगभग प्रति एक हजार नवजात शिशुओं में १.५ से २ तक इसके पाये जाने की संभावना है। अत्याधुनिक विकसित चिकित्सा उपकरण होने पर भी पिछले चार दशक में इसके अपातन में कोई परिवर्तन नहीं हुआ है। बच्चों में पायी जानेवाली विकलाङ्गता के अन्तर्गत लगभग १५ से २० % सेरेब्रल पाल्सी से ग्रस्त होते हैं। यह बालकों के विकास क्रम के दौरान आघात करता है। सेरेब्रल पाल्सी के लक्षण एवं दोषों के अनुसार वात की प्रधानता होती है। अतः इसी के अनुसार निदान पञ्चकों का ग्रहण किया जाता है। इसकी चिकित्सा वातव्याधि के अनुसार कर सकते हैं। इस लेख में सेरेब्रल पाल्सी के आयुर्वेदीय पक्ष का सविस्तार वर्णन किया गया है।

