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### Management of Cerebral Atrophy in Ayurveda

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### ABSTRACT

Cerebral Atrophy is a degenerative condition where there is wasting or shrinkage of the brain due to loss of cerebral volume. In brain tissue, atrophy describes the loss of neurons and the connections between the brain tissues. Cerebral atrophy is a common feature of many of the diseases that affect the brain. Rates of cerebral atrophy differs in different degenerative pathologies and depending upon the area of brain involved, the manifestation of the symptoms occurs which can be generalized or focal. It is not possible to reverse brain atrophy after it has already occurred but there may be some ways of preventing it or slowing it down. However, preventing brain damage, especially by preventing a stroke, may reduce the amount of atrophy that may develop over time. Healthy lifestyle strategies could minimize the atrophy that is normally associated with aging. In Ayurveda, this particular condition is not described as it is but it's pathology can be understood on the basis of Tridoshas. Nervous system is related to aggravation of Vata Dosha due to diet and lifestyle changes which aggravate Vata in body. As old age is a period for Vata aggravation thus atrophy is common in old age therefore approach for the treatment of Cerebral Atrophy is according to Vata Vyadhi by nourishing the body with Snigdha Dravya (oily substances), Panchakarma (therapeutic cleaning of body) etc. Cerebral atrophy can also be understood on the basis of concepts of Majja Dhatu Kshaya.[1] Therefore here an attempt is made, to understand Cerebral atrophy from both modern and Ayurvedic concepts and to discuss the management of the condition from Ayurvedic point of view.

Key words: Vata Dosha, Vyadhi, Majja Dhatu Kshaya, Snigdha Dravya, Panchakarma.

#### INTRODUCTION

According to Ayurveda, cerebral atrophy is caused due to disruption in the *Vata Dosha*, which controls the motor and sensory activities in the body. There is no specific treatment or cure for cerebral atrophy. Some symptoms of underlying causes can be managed and treated. Controlling blood pressure and eating a healthy, balanced diet, being mentally and socially active etc are useful in this condition. The line

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of treatment is to bring back the motor and sensory functions of brain.

The internal medicines boost the blood supply. Natural anti-oxidants increase the oxygen supply to the brain and reduces cell death. The external therapies and *Panchakarma* like *Basti*, *Abhyanga*, *Shirodhara*, enhance the functioning of peripheral nervous system, circulation, maintains the muscle tone and reduces muscle spasm. Neuronutrient and *Rejuvinating* impact of Ayurvedic *Rasayana* are of great importance in the management of cerebral atrophy.

#### **Predisposing factors for Cerebral Atrophy**

The progression of cerebral atrophy depends on the disease involved. It can be due to traumatic injury in the brain, diseases like Alzheimer's disease, cerebral palsy which may impair motor control, senile dementia, disorders envolving progressive destruction of nerve cells in brain, genetic disorders that cause build-up of toxic levels of proteins in neurons, infections that may distruct neuron cells etc. Vitamin

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deficiency and excess alcohol consumption are also responsible for cerebral atrophy. It is also possible for cerebral atrophy to be present at birth in a congenital form. Certain neuroleptic drugs induces cerebral atrophy.

Nervous system is related to aggravation of *Vata Dosha* due to diet and lifestyle changes which aggravate *Vata* in body. As old age is a period for *Vata* aggravation thus atrophy is common in old age therefore approach for the treatment of Cerebral Atrophy is according to *Vata Vyadhi*. *Aharaja*, *Viharaja* and *Manasika Nidanas* which cause aggravation of *Vata Dosha* are said to be responsible for *Majja Kshaya*. [2]

#### **Cerebral Atrophy in Ayurveda**

According to Ayurveda, cerebral atrophy is due to disruption in the *Vata Dosha*, which controls the motor and sensory activities in the body. According to Ayurveda, brain is made from *Majja*.<sup>[3],[4]</sup> *Majja* that is present inside the *Masthishka* is *Mastulanga* and which is present inside the *Sthulasthi* is *Majja*.<sup>[4]</sup>

Dalhana commented that the ghee like material present in Masthishka called Masthaka Majja or Mastulunga. [5] Majja Dhatu is associated with the entire nervous system so, cerebral atrophy may be considered as Majja Dhatu Kshaya.

#### **Symptoms of Cerebral Atrophy**

Atrophy in the brain can be focal or generalized. Focal brain atrophy affects one or more specific regions and generalized cerebral atrophy affects the whole brain about equally throughout all regions. In cerebral atrophy, there are still some functioning neurons among those that have undergone necrosis, so the symptoms may be partial rather than complete. Symptoms of progressive brain atrophy include, dementia, behavioral changes, memory loss, thinking and functioning impairment, etc. In acute focal brain atrophy, which occurs weeks after the sudden symptoms of a stroke, head trauma, or infection, can produce symptoms like weakness of face, arm or leg, numbness etc. Congenital brain atrophy tends to affect certain areas of brain with symptoms

noticeable during infancy or early childhood includes seizures, trouble walking etc.

Vitiation of *Vata Dosha* results in irregular tissue formation and the tissue that is formed is of low quality and fragile. Thus, nerve pathologies cause symptoms commonly associated with *Vata*, such as pain and alteration of motion.

#### **Treatment of Cerebral Atrophy in Ayurveda**

Cerebral atrophy can affect a person's lifespan. Some individuals may eventually need supervised care either at home or in a nursing home. Disorders such as stroke can affect a person's quality of life and lifespan. There is no specific treatment or cure for cerebral atrophy in modern medicine. Some symptoms of underlying causes can be managed and treated. Controlling blood pressure and eating a healthy, balanced diet is advised. Some research suggests that physical exercise may slow the speed of atrophy.

The line of treatment is to bring back the motor and sensory functions of brain. Medicines help to increase blood supply to the effected part. Natural antioxidants increase oxygen supply to the brain and reduces oxitative stress on brain cell. *Majja* is *Aap Mahabhutha Pradhana*,<sup>[6]</sup> and according to *Charaka*, all *Dhatus* get increased by the use of substances having similar properties and they get reduced by the use of those having opposite properties.<sup>[7]</sup> So in *Majja Dhatu Kshaya* the water element in the food should be increased by increasing moist and oily content of food and therefore in *Majja Dhatu Kshaya*, where there is depletion of fat, *Sneha Karma* is adopted<sup>[8]</sup> to enhance memory, improve mental function, reduce stress, and balance the *Doshas*.

The treatments may vary depending on the root cause and each individual. Some medicines can help us to suppress signs and symptoms. General line of management with Internal medicines like Ashwagandha, Bala, Shankhpushpi Churna are given. Taila (oil) like Maha Masha Taila, Dhanwantaram taila, Balaswagandhadi Taila are beneficial for Abhayanga (massage). Basti is a drug of treatment in all neural disorders. There are many types of Bastis.

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Especially relevant *Basti* is selected according to the condition of patients.

#### Rasayana in Cerebral atrophy

Rasayana helps to improve memory, cognition, general health of individual and also helps to restore homeostasis of body. It improves muscle tone and all sensory organs. Rasayana therapy plays an important role in the management of Cerebral Atrophy. Brahmi, Shankhpushpi, Jatamansi, Guduchi etc. are some of the herbs used. Combinations of these formulated can restore brain functioning and helps to maintain mental health. It also affects body's immune system to improve proper functioning of all organs and restores cerebral functioning.

#### **CONCLUSION**

Ayurvedic medicines can offer better management to a probably incurable condition like cerebral atrophy and have a vital role in reducing the symptoms. More studies have to be conducted on the effect of Ayurvedic medicines in the neurological disorders. An integrated approach consisting of Ayurvedic medicines along with Panchakarma therapy, physiotherapy and occupational therapy may be expected to show good results in managing Cerebral atrophy. Apart from this, proper diet and healthy lifestyle, keeping onself physically and mentally active plays an important role in the management of Cerebral atrophy. The proper understanding of the pathology of cerebral atropy, the underlying causative factors, and the functioning of affected part should be known very well to adopt for the treatment that can reverse the pathology. Neurodegenerative disorders are pathologically characterized by the deposition of abnormal proteins in the brain. It is likely that future

treatment trials will target the underlying protein biochemistry.

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