

A CASE STUDY ON THE EFFECT OF BAHYA AND ABHYANTHARA SNEHANA PROCEDURES IN CEREBRAL ATROPHY

K. Sreevidya¹, B. Johar², Praveen Kumar Madikonda³

¹PG Scholar; ²H.O.D; ³Associate Professor;

PG Department of Panchakarma, Dr. BRKRGAC, Hyderabad, Telangana, India

Email: drsreevidyak@gmail.com

ABSTRACT

Cerebral atrophy is a common feature of many of the diseases that affects the brain. Atrophy of any tissue means a decrement in the size of the cell, which can be due to progressive loss of cytoplasmic proteins. In brain tissue, atrophy describes loss of neurons and the connections between them. Atrophy can be generalized, which means that all of the brain has shrunk; or it can be focal, affecting only a limited area of the brain. In ayurveda, cerebral atrophy may be considered as *majja dhatu kshaya* as the *majja dhatu* is associated with the entire nervous system. As for vitiation of *vata* in *majja dhatu*, the best treatment is to increase the quantity of water element in the diet. Water is found in the largest amounts in moist, oily foods. To elucidate the effect of *Bahya* and *Abhyantara Snehana* procedures in cerebral atrophy, a case study was conducted in the department of Panchakarma, Dr. BRKRGAC, Hyderabad and the results were documented.

Keywords: Cerebral atrophy, *Majja dhatu kshaya*, *Snehana* procedures.

INTRODUCTION

According to Ayurveda, brain is made from *Majja*^{1,2}. *Ashtanga Sangraha* in *Shareera Sthana* clearly differentiates the difference between *Majja* and *Masthulanga Majja*. He says *Majja* that is present inside the *Masthishka* is *Mastulanga* and which is present inside the *Sthulasthi* is *Majja*³. *Dalhana* says that the ghee like material present in *Masthishka* is called *Masthaka majja* or *Mastulunga*⁴. *Majja* means marrow, as in bone-marrow (*asthi-majja*). However, the term has become synonymous with nervous system, which is encased within bone like bone marrow. The skull is the casing of the brain. The vertebrae are the casing of the spinal cord. While the brain and spinal cord make up the central nervous

system, the *majja dhatu* is associated with the entire nervous system.

Cerebral atrophy is the loss of brain cells called neurons. Atrophy of any tissue means loss of cells. In brain tissue, atrophy describes loss of neurons and the connections between them. Cerebral atrophy may be primary or secondary associated with certain diseases. The clinical picture of "primary" brain atrophy may be epileptic seizures, headache, one-side hemiparesis or hemihyperaesthesia, dizziness and inco-ordination. In cortical brain atrophy, there might not be any neurological signs. The symptoms of primary brain atrophy may lack characteristic,

typical signs, which could be connected with brain atrophy.

The causes of cerebral atrophy are Stroke, Traumatic brain injury, Corticosteroid use, Alzheimer's disease, Cerebral palsy, Senile dementia, Frontotemporal dementia, Vascular dementia, Pick's disease, Huntington's disease, Multiple sclerosis, Epilepsy (in which lesions cause abnormal electrochemical discharges that result in seizures), Anorexia nervosa, Bulimia nervosa and other eating disorders, Encephalitis, Neurosyphilis, AIDS, diseases of the immune system etc.

Treatment for cerebral atrophy focuses on treating the symptoms and complications of the disease.

The nervous system and the bone marrow are treated as homologous structures in Ayurveda. So, cerebral atrophy may be considered as *majja dhatu kshaya* as the *majja dhatu* is associated with the entire nervous system.

Aharaja, *Viharaja* and *Manasika Nidanas* which cause aggravation of *Vata Dosha* are said to be responsible for *MajjaKshaya*⁵. Vitiating 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.

Majja is *aap mahabhutha pradhana*⁶. When *vata dosha* has entered the *majja dhatu*, the best treatment is to increase the quantity of water element in the diet. Water is found in the largest amounts in moist, oily foods and in those that are the most nourishing. Milk and ghee are the two most important substances. Milk and ghee restore deficient *majja dhatu*. When *vata* is vitiating, the patient should get more rest and avoid stressful situations.

The *Majja* fraction has been defined by *Vaidya Shabdha Sindhu*, as *Shuddha – Sneha* or pure –fat. 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 properties⁷. So, in *majja dhatu kshaya*, where there is depletion of fat, *sneha karma* will be the apt

treatment to restore the structure and function of the tissue.

Two fold treatments are needed simultaneously — Structural Restoration and Functional Restoration. Focusing on these principles a single case study has been done in a patient with mild diffuse cerebral atrophy to see the effect of a regimen of different *bahya and abhyantara snehana* procedures sequentially.

CASE PRESENTATION

A female patient aged 44 years presented to the OP unit of *Panchakarma* department at Dr. BRKR Govt Ayurvedic Hospital, complaining of headache which is continuous and dull in nature, persisting for whole day with nausea and insomnia since 8 months.

HISTORY OF PRESENT ILLNESS

The patient was suffering with headache which was dull and continuous in nature associated with nausea since one year. Six months back, she experienced an episode of severe headache, sudden, pooling of saliva and nausea. She had consulted a neurologist and mild diffuse cerebral atrophy was found in MRI. Since then she was using the medicine Tab. Topiramate 25 mg at bedtime and Tab. Clonazepam 0.25 mg BD.

PAST HISTORY

Patient had a history of mental tension and stress due to family issues. She was suffering from allergic rhinitis and bronchial asthma since 20 years and was on corticosteroids for a long time.

DIAGNOSIS

The present condition of the patient can be attributed to *majja dhatu kshaya* with vitiating of *vata* leading to *shirashoola* and *nidranasa*.

MRI gave an impression of mild diffused cerebral atrophy.

THERAPEUTIC FOCUS

The patient was treated in PG unit of *Panchakarma*. The treatment comprised of *Shirodhara*, *Prathimarsha nasya* and *Snehapana*.

2 cycles of *shirodhara* were planned with a gap of one month in between. *Nasya* and *Brimhana snehapana* were done in this period. The two cycles of *Shirodhara* were targeted towards correcting the mental stress and insomnia.

The schedule followed is given below:

1. *Shirodhara* for 10 days.
2. *Pratimarsha nasya* for 21 days.
3. *Shiropichu* for 21 days.
4. *Brimhana Snehapana* for 21 days
5. *Shirodhara* for 10 days.

Table 1: Drugs for Procedures.

Procedure	Medication Used
<i>Shirodhara</i>	<i>Brahmi tailam, Brihat chagalyadi ghritam, Balaswagandha tailam</i>
<i>Nasya</i>	<i>Ksheerabala 101 aavarthi</i>
<i>Snehapana</i>	<i>Shatavari ghritam</i>
<i>Shiropichu</i>	<i>Brahmi tailam, Balaswagandha tailam</i>

OUTCOME

Positive changes were seen as early as second day of the treatment. There was improvement in sleeping habits. During the course of first cycle of *Shirodhara*, the dosage of tablet clonazepam was decreased to one per day. After the first cycle of *dhara*, it was completely weaned off. Patient was advised to take *Pratimarsha nasya* and *Brimhana snehapana* for 21 days before going for the second cycle of *Shirodhara*. Subsequently she was asked to taper the dose of Tab. Topiramate during these 21 days to half of its initially prescribed dose. The patient was quite comfortable despite the fact that Tab. Clonazepam has been totally weaned off and Tab. Topiramate dose was reduced to half of its prescribed schedule. Once comfort was reported by the patient in terms of total remission of headache and sleep disturbance, Tab. Topiramate was completely withdrawn. The patient showed significant improvement after two cycles of *Shirodhara* and reported that there was marked relief in headache and positive change in sleeping habits.

DISCUSSION

Ayurveda understands pathology as the derangement/ disturbance in body constituents i.e. *Dosha, Dhatu and Mala*. The goal of the treatment is to bring them back to equilibrium.

According to *Susrutha*, the treatment principle of ayurveda is *Nidana parivarjanam*. The decreased *doshas* should be increased, aggravated *doshas* should be decreased and increased *doshas* should be sent out.

Based on this principle, we have selected *Shirodhara* for stress management (which is the main cause for the headache), *Brimhana nasya* for the degeneration of brain tissue, *Brimhana snehapana* and *Shiropichu* for *vata niyamana* in *shiras*.

The medicated oil that is poured from a height of 4 *angulas*, as a part of *Shirodhara*, on the forehead produces some magnetic waves due to flow of oil. It strikes on surface of the skin and electrical waves are created and transferred to the cerebral cortex and hypothalamus.⁸ Hypothalamus acts as centre of stimulation and inhibition in the body. Hence, soothing effect is created on the hypothalamus. It results in the secretion of various neurotransmitters like epinephrine, serotonin, dopamine, etc. Hypothalamus controls the function of pituitary gland, which in turn controls all systems of the body.⁹

Pratimarsha nasya with *Ksheerabala 101 aavarthi* is given in the form of *Brimhana nasya* as it is indicated in *vataja shula*¹⁰ and for the purpose of *Tarpana* as there is degeneration of tissue. According to *Acharya Vāgbhāta*, the drugs administered through the nose will enter the brain and pacify the *doshas*. It is explained that *Nasa* being the door way to

*Shiras*¹¹, the drug administered through nostrils, reaches *Shringataka* by *Nasasrota* and spreads in the *Murdha* taking route of *Netra*, *Shrotra*, *Kanta*, *Sira-mukhas* etc. and scrapes the morbid *doshas* in supra-clavicular region and extracts them from the *Uttamanga*¹². Oil being lipophilic in nature has the capacity to cross the blood brain barrier, and can exert its direct Neuro-supportive role to the CNS. Nasal medication also bypasses the First pass metabolism of the Liver and thus its pharmacological efficacy is retained without any interruption.

Shiropichu comes under *Murdhni taila*¹³. It is very effective in preventing headache, inducing good sleep¹⁴, controlling *vayu*, relaxing and revitalizing the central nervous system, thereby nourishing the brain with rich blood supply and oxygen. When *sneha* is given externally, drug undergoes *pachana* by *bhrajaka pitta*. Thereby, *virya* of drugs gets absorbed through *romakupa* and *dhamani*. It circulates and does nourishment of *dhatu* and *shamana* of *doshas*.

Snehapana with *Brahmi ghritha* has been given as *Brimhana snehana*. *Ghritha* was selected because it is *smrithi*, *buddhi*, *kapha*, *medo vivardhanam*.¹⁵ *Brahmi* is selected for its *Medhya rasayana action*¹⁶. Thus, the combination of the above treatments produced a synergistic effect and caused marked improvement in the condition of the patient.

CONCLUSION

This case report demonstrates that Ayurvedic *Panchakarma* therapies have significant role in Cerebral atrophy. Condition of the patient has been improved significantly. Chief complaints like headache, insomnia showed a sustained gradual improvement with *Shirodhara*, *Brimhana Snehapana*, *Shiropichu* and *Nasyakarma*. These therapies have improved the Q.O.L (quality of life) of the patient considerably. These results give in to contemplating the need of inclusion of Ayurvedic *Panchakarma* therapies in neurodegenerative disorders, thereby strongly supporting the necessity of integrated medicine.

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