



## AYURVEDIC MANAGEMENT OF DIABETIC OPHTHALMOPLÉGIA: A CASE STUDY

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### ABSTRACT

Diabetes mellitus (DM) is a widely prevalent non communicable disease in recent times. In India, 62 million people (12.1%) live with DM. DM has many complications like diabetic nephropathy, neuropathy, foot ulcer, retinopathy. Diabetic neuropathy occurs in ~50% of individuals with type 1 and type 2 DM of more than 10 years. Mononeuropathy (dysfunction of isolated cranial or peripheral nerves) is rare complication of DM and involvement of the third cranial nerve is most common. In Ayurveda DM is correlated to *Prāmeḥa*, which is *Vata* predominant stage. Diabetic ophthalmoplegia is understood as *vatapradhāna Prāmeḥa upadrava*. Management of ophthalmoplegia must include *Kaphamedohara*, *Vatahara*, *balya* and *Brihmana* drugs.

Here a clinically diagnosed case of Diabetic ophthalmoplegia (6<sup>th</sup> nerve palsy) is treated with Ayurvedic treatments i.e; *Nasya* (Errhine therapy) with *Ksheerabala taila 101 avartita*, *Sthanika Abhyanga* (local oil massage) with *Ksheerabala taila*, *ksheera dhooma* (fumigation with milk) and other internal medications like *Brihat Vata Chintamani*, *Astavarga Kashaya*, *dhanwantaram kashaya* and *Ksheerabala* capsule. Total duration of treatment was 15 days. There was complete reduction in diplopia, headache, numbness of face and in restricted movement, marked improvement was seen in visual acuity (VA).

**Keywords:** Diabetic ophthalmoplegia, *prameha upadrava*, *Nasya*, *Ksheeradhooma*.

**INTRODUCTION:** Diabetic neuropathy occurs in ~50% of individuals with type 1 and type 2 DM<sup>1</sup> of more than 10 years. It may manifest in many forms like polyneuropathy, mononeuropathy. Development of neuropathy depends on the glycemic control and duration of diabetes mellitus. Additional risk factors are BMI and smoking. Ophthalmoplegia refers to weakness of one or more extra ocular muscles which are responsible for eye movements.

Mononeuropathy (dysfunction of isolated cranial or peripheral nerves) is rare complication of DM and presents with pain and motor weakness in the distribution of a single nerve. Involvement

of the third cranial nerve is most common and is heralded by diplopia<sup>2</sup>. Sometimes other cranial nerves, such as IV, VI, or VII are affected<sup>3</sup>. Physical examination reveals ptosis and ophthalmoplegia with normal pupillary constriction to light. Cranial nerve palsy is believed to result from insufficiency of the vasa nervosa or small vessels that supply the nerve<sup>4</sup>. Long standing atherosclerotic changes in vessels leads to frequent 3<sup>rd</sup> and 6<sup>th</sup> nerve palsy.

Mononeuropathies are severe and of rapid onset. 3<sup>rd</sup> and 6<sup>th</sup> cranial nerve palsy results in diplopia<sup>5</sup>. Lateral rectus muscle is supplied by 6<sup>th</sup> cranial nerve and does the abduction (outward movement) of eyeball. Hence in 6<sup>th</sup> nerve palsy lateral rotation/

outward movement of eye is hampered. 6<sup>th</sup> nerve palsy patients usually present with binocular horizontal diplopia, worse in the distant and esotropia in primary gaze<sup>6</sup>. Causes of 6<sup>th</sup> nerve palsy include trauma, aneurysm, ischemia, demyelination and idiopathic cause<sup>7</sup>.

Unioocular diplopia which can be debilitating and significantly impairs the everyday and professional activities of the patient.

In Ayurveda, Diabetic ophthalmoplegia is understood as *Upadrava of Prameha*. Swamy pujiyapada Mahamuni mentioned *Meha/prameha* as a cause for *Netravikara*<sup>8</sup>. *Bahu abaddha medas* and *kapha* in *pramehi* causes *rasayani dourbalya* and accumulation of *kapha-meda* in the walls of blood vessels obstruct the flow of *rakta (dhamani dardhyata)*. Hence quantitative inflow of *rakta* through these narrow vessels leads to impairment of nerve and muscle function. Further it leads to *dhatukshaya janya Vata vriddhi*. It hampers the action of muscles intern movements of eyeball. *Chesta pravartana* (initiation of movements) is the function of *Vayu*<sup>9</sup>. *Prana vayu* is responsible for proper functioning of all the *Indriyas* and *vyana vayu* is responsible for all types of movements in body<sup>10</sup>. Hence *prana vayu*, *vyana vayu*, *kapha* and *medas* are involved in the *samprapti* (pathogenesis) of Diabetic Ophthalmoplegia.

#### **MATERIALS AND METHOD:**

**CASE HISTORY:** A 30 years old male patient approached OPD of Shalakyatantra, SKAMCH, Bengaluru on 18/10/2019 with the complaints of double vision while seeing left side objects in the

past 1 week. Associated with headache on left half, numbness in left temporal region and blurriness of vision for distant objects. Patient is a known case of Diabetes mellitus for 8 years and not on regular medication. Patient has the history of Facial palsy 6 months back and has been treated. On examination visual acuity (VA) in left eye was 6/24 and in RE 6/9(p). pupil was reactive and left eye lateral rectus muscle paresis was noticed i.e; left eyeball cannot be rotated towards lateral side. Eye lid-lid margin, Conjunctiva, cornea, sclera, anterior chamber, lens, fundus were normal in both eyes. Colour perception was normal. Intracranial pathology was ruled out with the help of CT scan. Based on clinical presentation, the patient was diagnosed as Diabetic ophthalmoplegia and advised to take following treatment.

Treatment given: *Nasya* (Errhine therapy) with *ksheerabala taila 101 avarita* 8 drops for each nostril for 7 days, *Sthanika Abhyanga* (local oil massage) with *ksheerabala taila* for 7 days, *ksheera dhooma* (fumigation with milk) for 7 days and internally *Brihat vata Chintamani* (BVC) tablet 1Bd with water, *ksheerabala* capsule 1 Bd with water, *Dhanwantaram* and *Astavarga Kashaya* 2 tsf Bd with warm water for 15 days.

#### **OBSERVATION AND RESULTS:**

After 7 days of treatment, marked improvement was seen in diplopia, eyeball movement, VA and relief from numbness around temporal region & headache was observed. At the end of 15 days all the symptoms were relieved with restoration of eyeball movements.

**Table 1: showing visual acuity of patient before and after treatment**

	Without glasses			With glasses		
	BT	AT1	AT2	BT	AT1	AT2
Both Eyes	6/9(P)	6/9(P)	6/9	6/6(P)	6/6(P)	6/6
Right Eye	6/6(P)	6/6(P)	6/6(P)	6/6	6/6	6/6
Left Eye	6/24	6/12(P)	6/9	6/12	6/9	6/6(P)

**BT- before treatment, AT1-after 7 days of treatment, AT2- after 15 days.**



Image 1

Before treatment



Image 2

on 8<sup>th</sup> day of treatment



Image 3

after 15 days of treatment

## DISCUSSION

Neuropathy of cranial nerves, despite being a rare entity in Diabetes mellitus, appears to be a serious problem from diagnostic and therapeutic point of view.

Diabetic ophthalmoplegia can be understood as *Pramehajanya Netravikara*. As *Kapha, medas, Prana* and *vyana vayu* are involved *doshas, Kapha medohara* and *vatanulomana* treatments to be adopted. In this case, *kapha medohara* treatment is advised to correct *Samprapti* and *Vatahara- brijmana* treatment is given to restore and strengthen the muscle activity.

*Astavarga Kashaya* contains *Bala, sahachara, eranda, devadaru, shunti, nirgundi* and *lashuna*, which are *Vata-Kaphahara* in nature. *Dhanwantaram Kashaya* contains *Dashamoola, yava,*

*kulatha, trijataka* which are *kaphavata* and *medohara*. Both the *kashayas* does *Kapha medohara* and there by *vatashamana*. *BVC tab.* contains *bhasmas* (nanoparticles) of *Swarna* (gold), *Rajata* (silver), *Loha* (Iron), *Abhraka, pravala, mukta* which rejuvenates and helps to restore the functions of nerve and muscle. *Ksheerabala* capsules are *Balya* and *Brahmana*, gives strength to muscle.

*Nasya* (errhine therapy) helps to stimulate the higher centres of brain like amygdaloidal complex, hypothalamus, thalamus which inturn shows action on regulation of endocrine and nervous system functions. *Sthanika abhyanga* and *Ksheeradhupa* improves the local circulation, helps to alleviate numbness and left half sided headache & strain (*vata*

*vridhhi*) with the restoration of normal functional integrity of *vata*.

Throughout the treatment duration good glycemic control was maintained by the drugs in use by the patient.

### CONCLUSION

Though Diabetic ophthalmoplegia is a rare entity, appears to be a serious problem for diagnosis and treatment. Diplopia is very annoying to the patient. Hence early intervention is required to give relief from symptoms and to treat the cause. Along with the *Pramehahara* medicines *Sthanika abhyanga*, *Ksheeradhupa*, *Nasya* and other internal medications like tab. BVC, cap.KB, *Astavarga Kashaya*, *Dhanwantaram Kashaya* are beneficial in Diabetic ophthalmoplegia.

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