



Management of acquired myogenic ptosis with Ayurvedic medications and external therapies

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Abstract

Introduction: Functional neurological symptoms often follow road traffic accidents and are commonly misdiagnosed. In Ayurveda, ptosis is simulated as "*vatahata vartma*," reflecting an inability to fully close the upper eyelid due to vata aggravation. A 37-year-old male with no known health issues, presented after a road traffic accident. He had traumatic brain injury with an epidural hematoma, facial fractures, rib fractures, and other injuries. After consultation with neurosurgeon, he received appropriate medical management. Within a week, he developed reduced vision and heaviness in the right eye, along with drooping of the eyelid.

Materials and methods: 40 days of appropriate external therapies including *Rukshana*, *Snehapanam*, *Abyanga*, and *Usma Sweda*, as well as *Virechanam*, *Nasyam*, *Anjanam*, *Shirovasti*, *Tarpanam*, and *Putapakam*, were given to the patient, along with internal medications

Results: Photographic records reveal significant improvement in the ptosis condition. Furthermore, clinical examination findings indicate notable changes in extraocular movements and visual acuity

Conclusion: The diagnosis and treatment of functional neurological disorders present considerable clinical challenges. This specific case emphasizes the necessity of embracing a holistic strategy to tackle these disorders. Therapeutic success here stemmed from the synergistic impact of diverse Ayurvedic treatment approaches, encompassing *dosha* elimination (*sodhana*), pacification (*samana*), and external therapies. Furthermore, the effectiveness of traditionally prepared Ayurvedic medicines is highlighted in efficiently managing patients with functional neurological disorders.

Introduction

Functional neurological symptoms followed by road traffic accidents are frequently encountered in clinical settings and are prone to misdiagnosis¹. Furthermore, these functional symptoms tend to endure for extended periods, causing distress and disability, which in turn may trigger unnecessary investigations and interventions. Ptosis is such a disease which refers to the abnormal drooping of the upper eyelid. Under normal circumstances,

the upper lid typically covers approximately one-sixth of the cornea, equating to around 2 millimeters. However, in case of ptosis, the upper eyelid extends beyond this measurement, covering more than 2 millimeters of the cornea². In Ayurveda, as per Vagbhata's perspective, ptosis is likened to "*vatahata vartma*." This condition is described as inability to fully close the upper eyelid due to *vata* aggravation³.

As per the Ayurvedic fundamental principle known as "*loka purusha samavaya sidhanata*," where "*loka*" represents the entire human body and "*purusha*" signifies the eye, the aggravation of *vata* in the body is also reflected in the eye, manifesting as specific symptoms of acute *vata* aggravation, termed "*vatahatam*" in the eye.⁴ Therefore, the overall management techniques used to address *vata* imbalances are also applicable for addressing issues related to the eyes. Ayurvedic treatment protocols are personalized, aimed at restoring the equilibrium of the three *sareera doshas* (body humor) *Vata*, *Pitta*, and *Kapha*.⁵ This is a report of a patient presented with drooping of Right eyelids, initially diagnosed as acquired myogenic ptosis, and managed with the ayurvedic medications and external therapies. Along with internal ayurvedic treatment measures like *snehapanam* (therapeutic procedure involving oral administration of medicated ghee or oils), external therapeutics like *Nasyam*⁶ (Nasal administration of medicated oils), *Anjanam*⁷ (Medicated collyrium), *Shirovasti*⁸ (Retaining oil on head), *Tarpana*⁹ (Retention of medicated ghee in eyes) and *Putapakam*¹⁰ were done.

Patient information

37 year old male with no known comorbidities presented with H/O of road traffic accident and fall from scooter. On arrival at Emergency Department, BP: 160/100 mmHg, HR: 112/MIN, RR: 24/MIN, SPO2:89% ON RA, GCS: E2V2M5, PUPIL-R-3mm, L-2mm. Trauma imaging taken-TBI-EDH in right temporal lobe, extra axial hemorrhage, mediastinal shift, right pneumothorax, liver laceration, perinephric hematoma grade I, multiple facial bone fracture, multiple rib fracture- right side. Patient intubated I/V/O low GCS. Neurosurgeon consultation sought and advices followed. Patient was managed with anti-epileptic, analgesics, antibiotic and other supportive measures. Within a week, he experienced reduced vision in the right eye along with a sensation of heaviness and drooping of the right eyelid. There is no history of retraction of ptotic lid with jaw movement. No history of ophthalmoplegic migraine. No raise in eye lid crease and deepening of superior lid sulcus. Slight thinning of eyelid noted in the supratarsal area.

Clinical findings

On examination, he had severe unilateral ptosis right side, Eye lid crease absent, jaw-winking phenomenon absent, Bells phenomenon present.

Table 1: Showing findings in the eye

Sl No.	Structures in eye	Right eye	Left eye
1	Eye lid	Drooping	Normal
2	Eyeball position	Normal	Normal
3	Eyeball movement	All movement not possible	Possible
4	Conjunctiva	Normal	Normal
5	Cornea	Clear	Clear
6	Pupil	Dilated, Non reactive, Round	Rounded, Regular, Reactive
7	Iris	Normal	Normal
8	Lens	Normal	Normal

Table 2: Showing measurement of ptosis

SI No.	Examinations	Right eye	Left eye
1	Degree of ptosis	(Severe) 4mm	(Normal) 1.5mm
2	Margin reflex distance	(Severe) 0mm	(Normal) > 4mm
3	Assessment of levator function	(Poor) 2mm	(Normal) 15mm

Investigations findings

Blood R/E - Hb- 11.6 gm%, ESR- 09mm/hr

Blood Sugar - FBS- 110mg%, PPBS- 136mg%

Lipid profile - T.Cholesterol- 249mg%, Triglyceride- 154mg%, HDL-38mg%, LDL- 181mg%, VLDL- 30mg%

Renal function test - B.Urea- 11mg%, S.Creatinine- 1.2mg%, S.Uric acid- 6.3mg%

Liver function test- T.Bilirubin- 1.4mg%, Direct bilirubin- 0.3mg%, SGPT- 64 IU/L, SGOT- 37 IU/L

Urine Analysis- Albumin- Nil, Sugar- Nil, Pus cell- 2-3/HPF, Epithelial cell- 1-2/HPF

CT HEAD- Extra dural haemorrhage in right temporal lobe.

Thin extra-axial haemorrhage in right posterior parietal and occipital region.

Multiple skull and facial bone fracture.

CT C- SPINE- No evidence of trauma related abnormality in cervical spine.

Ayurvedic diagnostic assessment

Samprapti

Nidanam : Abhigatam → Vitiating of Vata → Sthanasamshraya in Vartma (Sroto vaigunya) →

Drooping of Right eye lid, feeling of stretching in the eyes → Vatahata Vartma

Materials and Methods

Management Schedule

Table 3: Showing treatment protocol

SI No.	Procedure	Type of medicine used and dose	No. of days
1	<i>Rukshana</i>	<i>Valuka sweda</i> ¹¹	3
		<i>Takrapanam</i> ¹²	3
2	<i>Snehapanam</i>	<i>Kalyanakam sarpi</i> ¹³ 1 st day 30 ml	3

		2 nd day 60ml 3 rd day 90ml	
3	<i>Abyanaga and Usma sweda</i>	<i>Karpasastyadi tailam</i> ¹⁴	3
4	<i>Virechavnam</i>	<i>Gandharva erandam</i> ¹⁵ 20ml with milk 30ml	1
5	<i>Nasyam</i>	<i>Dhanwantaram tailam</i> ¹⁶ 101 <i>avartti + Mamsa rasam</i> ¹⁷ 10 drops in each nostrills with equal quantity	7
6	<i>Anjanam</i>	<i>Vasanjanam</i> ¹⁸	7
7	<i>Shirovasti</i>	<i>Karpastyadi tailam</i>	5
8	<i>Tarpanam</i>	<i>Rasnadasamuladi gritam</i> ¹⁹	5
9	<i>Putapakam</i>	<i>Bruhmana putapaka dravyas</i> ²⁰	3

Internal Medicines * 40 days

1. *Ashtavargam kashayam*²¹ - 90ml b/d
2. *Yogaraja guggulu*²² - 1-0-1 with Triphala kashaya
3. *Aswagandaristam*²³ - 30ml A/F

Observation and Result

Photographic record

Before Treatment

Course of Treatment

After treatment



Table 4: Showing change in before treatment and after treatment of Measurements of ptosis

Sl.No.	Examinations	Before treatment		After treatment	
		Right eye	Left eye	Right eye	Left eye
1	Degree of ptosis	(Severe) 4mm	(Normal) 1.5mm	(Normal) 1.5mm	(Normal) 1.5mm
2	Margin reflex distance	(Severe) 0mm	(Normal) > 4mm	(Normal) 4mm	(Normal) > 4mm
3	Assessment of levator function	(Poor) 2mm	(Normal) 15mm	(Good) 10mm	(Normal) 15mm

Table 5: Showing change in movement of extra ocular muscles

Muscles	Primary action	Before Treatment (OD)	After Treatment (OD)
MR	Adduction	No	Yes
LR	Abduction	Yes	Yes
SR	Elevation	No	Yes
IR	Depression	No	Yes
SO	Intorsion	No	Yes
IO	Extorsion	No	Yes

Table 6: Showing Visual Acuity Before treatment and After treatment

Vision	Before treatment		After treatment	
	OD	OS	OD	OS
Distant vision	PL -ve	6/9	PL +ve	6/6
Pin hole	PL -ve	6/6	PL+ve	6/6
Near vision	<N36	N8	<N36	N6p

Discussion

This case underscores the importance of taking a comprehensive approach to recognize the various traumatic factors contributing to the emergence and persistence of functional symptoms, particularly those affecting the eye. Regarding differential diagnosis, the presence of persistent symmetric ptosis may suggest a myopathic origin, with typical examples including chronic progressive external ophthalmoplegia (CPEO) or oculo-pharyngeal muscular dystrophy (OPMD)²⁴. However, considering the patient's history of unilateral ptosis after a sudden trauma, a myopathic origin can be ruled out. Aponeurotic ptosis is excluded due to non involvement of levator aponeurosis²⁵. Since the patient had dilated pupil, ipsilateral sweating and severe ptosis horners syndrome is excluded²⁶. Pseudoptosis is ruled out because there is no involvement of phthisis bulbi, brow ptosis, dermatochalasis and contralateral lid retraction²⁷. The conclusive diagnosis of acquired myogenic ptosis is made based on the patient's traumatic history, accompanied by symptoms of 3rd nerve palsy and paralysis of the levator palpebrae superioris (LPS). Additionally, the patient exhibits weakness in the extraocular muscles²⁸.

When considering an Ayurvedic diagnosis, it is crucial to recognize the therapeutic indicators, such as the affected *dosha* (body humor), *dhatu* (tissues), as well as other factors like *Prakriti* (body constitution) and *agni* (digestive power). Since the patient had sudden traumatic history (*abhigata nidana*) *vata kopa* occurs. When *vata* becomes aggravated, it localizes in the eyelid (*vartma*) and presents as *vatahata*, characterized by paralysis of the *nimesa* and *unmesa sira* (3rd nerve palsy). The *vartma* is normally firmly attached to the eyeball by *sandibandana*, but in *vatahata*, laxity of this attachment occurs. The external muscles of eye lid are part of *mandala pesi*. The *prithu* type of *mandala peshi* is affected by aggravated *vata* due to the particular traumatic event in the patient's history. The function of opening and closing the eyes, known as *nimesa unmesa*, is regulated by *vyana vayu*. Affliction of this *vyana vayu* manifests as a functional neurological deficit.

Taking into account the imbalance of *vata* (specifically *vyana vayu*), a general approach to managing *vata dosha* is implemented. Considering the *stanika dosha* in *vartha* as *kapha* as well as patient is of *kapha prakruti*, *vishama agni* (unpredictable digestive strength) prior to the *sneha pana rukshana* is adopted. This *rukshana purva snehapana* consistently helps alleviate the complications associated with oleation therapy, and ensures that the fat used for *snehapana* is not all acclimatized easily. So for *rukshana valuka sweda* is selected. As a general management of *vyana vayu snehapanam* with *kalyanakam gritam* is selected. *Kalyanaka gritam* bestows strength, nourishment to the deeper *dhatu* upto *shukra*. It nourishes *majja dhatu* thereby mitigate *vata vyadhi*. As per Ayurvedic concept of general *vata* management; it is also beneficial to the localised *vata kopa* namely *vatahatam* in eye. After *snehapanam* treatment prolongs by *abyanga* and *usma sweda* with *karpasastyadi tailam*. The *doshas*, referring here to waste substances targeted for elimination, can originate from various sources such as the gastrointestinal tract (*kostha*), tissues (*dhatu*), or even lie dormant within metabolic pathways (*srotases*). They can also be present in the skin and tissues extending from the blood onwards (*Sakhas*), contributing to the development of diseases. Following *sneha* procedures to induce sliminess, these *doshas* should undergo further liquefaction through sudation (*swedanam*), before being directed back to the gastrointestinal tract (*kostha*) for elimination. This process is facilitated by the careful application of eliminative therapies. In this context, *karpasastyadi tailam* is chosen for sudation because it alleviates *vata* and is specifically recommended for *abyanga* therapy. Here *virechana* with *gandarva erandam* is chosen as an eliminative therapy. Thereby it eliminate the *malas* (waste substances). This *virechana* procedure to be carried out prior to administering *nasyam* and applying *anjanam*. *Nasyam* using *Dhanwantaram 101 avarti* and *mamsa rasa* is chosen to alleviate diseases affecting the upper part of the body, particularly targeting *vata* aggravation localized in the eyelid. *Vasa anjana* is chosen to alleviate localized *vata* aggravation in the eye lid, as it is specifically recommended for conditions like *Sushkaksipaka* and *Vatika Timira*. *Shirovasti* is done with *karpasastyadi tailam* as it specially indicated in *arditam* and *ekangarogam*, which helps to tackle the functional neuronal deficit. In this case, the eye has been weakened due to trauma as well as third cranial nerve palsy followed by *Shirovasti tarpana* is done with *Rasnadasamuladi gritam*. As *rasnadasamuladi gritam* is specially indicated in aggravated *vata kopa* in upper part of the body.

Bala, Sahachara, Eranda, Shunthi, Rasna, Devadaru, Sindhuvara, and Lashuna are the ingredients of *Ashtaverga Kashaya*. These ingredients are primarily indicated for conditions involving the vitiation of *Vata* and *Kapha doshas*. *Vata* imbalance can occur either due to *dhatukshaya janya samprapti* or *avarana janya samprapti*. *Ashtaverga Kashaya* primarily acts on *avarana janya samprapti*, addressing *Vata* imbalance caused by *avarana*. This formulation specifically targets *Kapha-avruta Vata*, particularly *Kapha-avruta Vyana Vayu* and *Udana Vayu*, which can be correlated with the symptoms of *Vatahata Vartma*. *Yogaraja Guggulu* deeply penetrates body tissues, acting on both *medo dhatu* and *majja dhatu*, which includes the *akshi* as the seat of *majja*. By clearing the *medas*, it supports the *uttarottara srotas pravritti*, ultimately benefiting *majja dhatu*. When taken with the proper *anupana*, *Yogaraja Guggulu* has a significant positive effect on this condition. *Ashwagandharishta* benefits *vatahata vartma* by strengthening nerves and muscles, improving neuromuscular function, and balancing *Vata dosha* to support eyelid function.

Informed consent

An informed written consent taken from the individual and his confidentiality was maintained. He had the right to withdraw from the study at any point of time.

Conclusion

The diagnosis and treatment of functional neurological disorders present considerable clinical challenges. This specific case emphasizes the necessity of embracing a holistic strategy to tackle these disorders. Therapeutic success here stemmed from the synergistic impact of diverse Ayurvedic treatment approaches, encompassing *dosha* elimination (*sodhana*), pacification (*samana*), and external therapies. Furthermore, the effectiveness of traditionally prepared Ayurvedic medicines is highlighted in efficiently managing patients with functional neurological disorders.

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