



AN APPREHENSIVE ANALYSIS AND MANAGEMENT OF MACULAR HOLE – AN OBSERVATIONAL CASE REPORT

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ABSTRACT

Purpose

To report the effect of treatment protocol and document visual recovery changes in patient with Idiopathic Macular Hole.

Methods: Interventional Case Report

Source of the data: 65yr old male who reported to shalakya OPD, GAMC, Bengaluru with C/O Sudden painless diminution of vision in LE, with distorted vision in LE, who was diagnosed with idiopathic full thickness macular hole in LE and was treated with ILM Peeling with satisfactory visual recovery and marked ocular discomfort and gradual diminution of vision, visual acuity remained 6/18 after surgery.

Study design: Observational case study

Intervention: *Jeevanyadi gritha aschayotana, Ksheerabala 101 marsha Nasya, shiro Dhara, Patoladi Grithapana, Ashwagandhadi ksheera paka.*

Ocular assessment: OCT

Results - Main Outcome

Visual acuity improved by 2 lines, OS- V/A- 6/9

Conclusion: This study shows that *Balya* line of management in macular hole helps in effectively arresting the visual deterioration and also contributes to better visual outcome.

Keywords: *full thickness macular hole, drusti, chaturtha patala, balya*

INTRODUCTION : A macular hole (MH) is a full-thickness or partial-thickness defect in the macular region, and its pathogenesis can be idiopathic or result from myopia, trauma, or other causes ^{1,2}.

Before the application of vitrectomy, there was no specific treatment for MH. The surgical outcomes of macular holes (MHs) have improved greatly in recent years. The closure rate is as high as 90–100%, but the outcomes of some special types of MHs remain unsatisfactory. Internal limiting membrane (ILM) peeling dramatically improves the anatomic success rate, but recent studies have found that it could also

cause mechanical and subclinical traumatic changes to the retina. Dyes are widely used, and apart from indocyanine green (ICG), the toxicities of other dyes require further research.

METHOD:

Interventional case report:

A 65-year-old man reported with a history of gradual diminished distant and near vision in both the eyes since 5years, he describes an aching pain in LE that is absent when he first awakens then worsens as the day progresses. It is symmetric, daily, and is getting worse occurring more frequently and earlier in the day, he also developed

distorted vision in LE occasionally since 1month, for which he consulted ophthalmologist and on routine examination he was diagnosed with macular hole in LE and was treated with the emergency procedure of vitrectomy with ILM peeling, and was treated for mature cataract with PCIOL later his vision in LE improved within a week but gradually started blurring with dull pain in LE which worsens

by reading. Closing his eyes makes it better, also associated with photophobia in LE, he later approached for a follow-up after surgery and he was given bi-focal glasses without much improvement, he denies metamorphosia Hence he approached OPD GAMC, Bengaluru for further Ayurvedic management.

Table 1 History

Past medical and ocular history Diabetes mellitus since 5years Osteoarthritis Hypertension BE- Post subcapsular cataract with nuclear sclerosis-grade 2	Past surgical history LE- post vitrectomy, ILM peeling, PCIOL Family history Mother—DM TYPE 2 Review of systems Easy bruising, Hypoglycemic episodes
Medications Inj Human Mixtard 30/70- 16-0-10 s/c Tab Glymin gp 1 1-0-1 Tab Telma CT 1-0-1 Atorvastatin 20mg 0-0-1	Social history No smoking or drug use Retired HAL employee

Table 2 Ocular Examination:

Acuity with correction Right eye: 6/60 distance with glasses, N24 with glasses Left eye: 6/9P distance with glasses, N8 with glasses
Pupils BE- Equal, round, reactive, without an afferent pupillary defect
Intraocular pressure Right eye: 17 mmHg Left eye: 17 mmHg
External exam: Normal
Eye alignment and motility Normal motility Orthophoric in distance
Slit lamp examination RE- Post subcapsular cataract with nuclear sclerosis-grade 2 LE- PCIOL +
Visual field: Normal
Fundus examination: IDO- Normal, LE- No fundal glow
Neurologic examination Normal
Colour vision test- LE- Patient couldn't identify any colour

Table 3 Intervention:

1. Tab. <i>chitrakadi vati</i> 2-2-2 B/F	3 days
2. <i>Sadyo virechana</i> with <i>Gandharvahastadi Taila</i> - 50ml.	
3. <i>Seka- guduchyadi Kashaya</i>	7days
4. <i>Guduchi</i> with <i>kumari bidalaka</i>	7days
5. <i>Jeevanthyadi gritha aschhyotana</i> 2-0-2	30days
6. <i>Nasya</i> with <i>ksheerabala taila</i> 101 2-0-2	30days
7. <i>Tailadhara – Asana-bilawadi taila, brahmi taila, Mahavishnu taila</i>	7days
8. <i>Shirovestana- Ashwaghanda, triphala, patoladi gritha.</i>	7days
9. <i>Ashwagandhadi ksheera paka</i> 100ml BD	30days
10. <i>Patoladi gritha pana-</i> 0-0-10ml	30days

Table 4 Results: Visual acuity improved by 2 lines, OS- V/A- 6/9

Visual Acuity	BT	AT	AF
	Left Eye	6/18	6/12

DISCUSSION:

Ophthalmic Perspective: In this case of a Full-thickness macular hole- 745 micron in diameter- stage 2 [OS] with significant recent onset of metamorphosia and treated surgically with pars plana vitrectomy and ILM peel and PCIOL insertion, patient's vision gradual improved within a week but slowly started developing blurriness in vision with eye strain and asthenopic symptoms; on a follow-up check-up since his ophthalmic examination turned out to be normal, OCT- small defect in the RPE, patient was advised with correction glasses, but the patient continued to have ocular discomfort. This can be understood as probable mechanical or subclinical traumatic changes in the retina.

Shalakya perspective:

It can be understood as a *drustigata vikara*⁴ - which involves *Chaturtha patala*⁵ Considering the post-surgical complaints of the patients and understanding it to be mechanical trauma leading to defective vision, here in the *chikitsa concept of balya* is applied.

According to *Sushruta*, “*Bala*” is defined as “the factor due to which one obtains the nourishment and stability of *Mamsa*

dhatu (~the muscular tissues of the body), and internal like *Manas* (mind), *Aatma* (spirit), etc”³.

In *Sushruta* the word “*Bala*” refers to “*Ojus*” also which has a function of maintaining the “*Bala*” of the body. In-fact many authors of *Ayurveda* are of the opinion that *Bala* should be referred to “*Ojus*”. The word “*Bala*” also denotes the normal “*Kapha dosha*” which is present in eye; normal *Tarpaka kapha* is responsible for proper nourishment of eye. And it is also said the action of *balya* is to accelerate efficient working of all the organs either external like *Jnyaanendriya* (sense organs) or *Karmendriya* (organs with motor functions)

Even though, *Bala* stands for the strength of the body, the word is being used in different contexts to denote various aspects accordingly. All the aspects related to *Balya* action in-fact do have either functionality or even a direct or indirect beneficial effect on the strength of the body, and hence based on this concept the cluster treatment approach is planned to evaluate the action of *balya* on *drusti* which is *swabhavataha sheetha sathmya*.

The paper tries to provide a profound review on understanding the lakshanas of the *drusti vikara, doshas* involved and probable three dimensional action required to effectively relieve the symptoms and protect the vision from further damage.

The *balya* treatment planned here and its three dimensional action on *drusti*:

1. That increases the nourishment to *patala gata dhatu*.
2. Immunomodulators and bioenergy to accelerate active healing of any mechanical trauma of retina
3. That which enhances lubrication in the retinal layers hence actively arrests the further retinal degenerations

CONCLUSION: There is no doubt that MH surgery has made huge progress leading to better accuracy and convenience and less damage, but some amount of visual disturbances and ocular discomfort could be due to microstructural changes in retinal layers, which by the application of Ayurvedic concept of *balya* helps in actively resolving of these symptoms, the results in this case proves that *drusti is sheeta satmya and action balya* nourishes even subtle layers of retina thereby relieving the symptoms after treatment and also helps maintain the quality of vision in consecutive follow-ups. Hence an integrative approach in terms of post-surgical adoption of *balya* treatment helps the tissue to functionally maintains its integrity effectively; further extensive study is required in this terms so that it can be actively implemented as a protocol in all surgical cases for the better outcome of vision.

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