



Case Study

POST-OPERATIVE MACULAR OEDEMA MANAGEMENT THROUGH AYURVEDA-A CASE STUDY

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ABSTRACT

Macular oedema is gush of fluid from surrounding vessels of foveal region into tissues which makes pocket or vesicle like spaces and increases thickness of macula which can be checked by Fluorescein angiography and autofluorescence. Blurry or wavy vision near or in the centre of field of vision is its primary symptom. Chronic inflammation, direct macular traction, and decrease in oxygen amount's common role is assessed in every study till now. **Main Clinical Findings:** A female patient of age 66 years had been complaining of blurred vision and discomfort in left eye for 3months after her cataract surgery. **Diagnosis:** She was diagnosed for macular oedema and treated for it. **Interventions:** The principles of *Vataja Timira*, *Shotha* were followed and internal medicine was given. **Outcome:** Patient got Significant results by improving quality of vision and repair the detached area. **Conclusion:** The present case anticipates the fruitful approach of Ayurveda science in dealing with Macular oedema. This also confirms relation between macular oedema and treatment principles followed.

INTRODUCTION

Macular Oedema is increase in retinal thickness at macula because of disturbance of standard blood ocular barrier this causes leakage from perifoveal retinal capillaries and accumulation of fluid within intracellular spaces of retina primarily in outer plexiform layer.^[1] Visual loss occurs because of this phenomenon as distortion of architecture of photoreceptors occurs. It is final common pathway of many processes such as diabetic, adverse drug reaction, inflammatory, post cataract, retinal dystrophy, intraocular tumors and age-related macular degeneration. In developed world Cystoid Macular Oedema (CME) is leading cause of loss of central vision.^[2] Transcapillary hydrostatic pressure difference and effective osmotic pressure difference are two main driving force for fluid movement across capillary wall^[3,4] as well as absence of lymphatic system in eye.^[5] Cytotoxic (Muller cell dysfunction), hyperpermeability,

leukostasis are various pathways discussed in its pathology. Modern treatment includes topical steroids, posterior periocular injection, laser photocoagulation, systemic carbonic anhydrase inhibitor.^[6] Optical Coherence Tomography (OCT) is nowadays a benchmark for treatment as well as diagnosis by providing objective measurement of thickness of retina and interacts with sharpness of vision and imparts absolute structural knowledge. Ayurveda is an ancient science which is providing health to humans since time immemorial. Among Ayurveda's eight parts *Shalakyta Tantra* is one which deals with *Urdhavajatra Vikaras* and eye disorders are one among them. *Acharya Sushruta* has described *Vataja Timira* as one of *Drishtigata Rogas* which can be correlated with CME in which patient sees everything as *Bhramantiva*, *Aavila*, *Arunabhani*, *Vyavidhani*.^[7] So, by exploring the facts of Ayurveda we can cope up CME and prevent its recurrence as such type of symptoms are anciently also mentioned. In view of unsatisfactory result of allopathy medicine in curing the disease patient came to XXX OPD and Ayurvedic medicines were intervened.

Case Report

A female patient of OPD No XXXXXXXX, age 66 years came to *Arogya Shala* XXX. Her chief complaints were blurred vision and discomfort in left eye for 3 months. Patient had undergone cataract surgery three

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months back of left eye. Patient was facing this problem just after this surgery. She also had a history of Thyroid for five years and taking medicines and now thyroid level was within normal limits. Patient had no any other history of diabetes, hypertension, tuberculosis, patient's bowel and bladder were clear. Patient was vegetarian. No any associated family history was found. Patient's Visual Acuity of both eyes was checked and it was found that right eye (oculi dexter OD) had with glass vision 6/24 and Pin Hole (PH) vision 6/24 and left eye (oculi sinister OS) had with glass vision 6/36 and Pin Hole (PH) vision 6/36 (not correctable with glasses). Patient's Slit Lamp eye examination was done pupil of both eyes were of normal shape and normal reacting. Eyelids, eyelashes, cornea, conjunctiva, anterior chamber and iris were also normal. Immature senile cataract was found in right eye and intraocular lens was implanted in left eye. Intraocular pressure of right eye was 16 mmHg and left eye was 18mmHg. Direct Ophthalmoscopy examination of both eyes were done right eye media was not clear (Immature senile cataract) and media of left eye was found clear. Disc of both eyes were normal, shape – circular, colour – pinkish yellow, margin – well defined. Cup Disc (CD) ratio was 0.3 with no AV crossing, no haemorrhages. Foveal reflex present in right eye (OD) and was absent in left eye (OS).

Diagnostic Evaluation: Patient's Visual Acuity was carried out to check best corrected vision which was not found 6/6 with PH. Slit Lamp eye examination was

done it was found normal except immature senile cataract in right eye and left eye was pseudo phakic and PCIOL was in situ. Direct Ophthalmoscopy examination was carried out in which foveal reflex was found absent in one eye (OS). Then with the help of OCT macular thickness was evaluated.

Diagnosis: *Vataja Timira* (Macular Oedema)

Treatment Protocol: After diagnosis of disease drug of choice was given accordingly keeping *Dosha, Dushya, Shrotas* involved (*Sampraptighataka*) in mind and following medicines were prescribed during first visit for fifteen days-

- *Gokshuradi Guggulu*^[8] - 500mg twice a day (BD) after meal (AF) with luke warm water.
- *Punarnavasthaka kwatha*^[9] - 40ml twice a day (BD) before food (BF).
- *Chandraprabha Vati*^[10] - 500mg twice a day (BD) after food (AF) with luke warm water.
- *Rasnasaptaka kwatha*^[11] - 20ml twice a day (BD) before food (BF).

During second visit of patient after knowing the status of disease earlier prescribed medicines were repeated and one medicine was newly added for next 15 days:

- *Saptamrita Lauha*^[12] - 500mg + *Laghmalini Vasant Rasa*^[13] - 250mg + *Mahatriphla Ghrita*^[14] ½ TSF and honey 1.5 TSF after food (AF) with milk.

Treatment was continued for duration of two months and follow up was done within an interval of fifteen days.

Table 1: Rationality of Drugs

S. No.	Name of Drug	Rationality of Drugs
1.	<i>Gokshuradi Guggulu</i>	<i>Stroto vishodhaka, Mootrala, Shothahara, Rasayana</i>
2.	<i>Punarnavasthaka kwatha</i>	<i>Vata- Kapha Shamak, Sarvanga Shothahara, Pandughan, Rasayana</i>
3.	<i>Chandraprabha Vati</i>	<i>Rasa and Rakta dhatu janya dosha nivaraka, Rasayana</i>
4.	<i>Rasnasaptaka kwatha</i>	<i>Vedanasthapaka</i>
5.	<i>Saptamrita Lauha</i>	<i>Chakshusya Rasayana</i>
6.	<i>Laghmalini Vasant Rasa</i>	<i>Rasa Rakta dhatu jnya vikara nivaraka, Netravikara</i>
7.	<i>Mahatriphla Ghrita</i>	<i>Brimhana, Drishti Prasadaka</i>

Table 2: Timeline

Date	Relevant History and Interventions
Early July 2022	Patient diagnosed with cataract left eye and advised surgery
16 th July 2022	cataract surgery with Phacoemulsification performed on left eye
23 rd August 2022	Patient complained of blurred vision in operated eye and subsequently optical coherence tomography 3D Macula done. Patient diagnosed with Post operative Cystoid Macular Oedema. Patient advised topical steroids and NSAID for the complaints.
8 th September 2022	Patient consulted another Allopathic Hospital and Advised to continue topical steroids and NSAID for the complaints.

<p>14th November 2022</p>	<p>Patient presented to <i>Netra Chikitsalaya</i> of <i>Arogya Shala XXX</i> Hospital with persisting complaints of blurred vision and discomfort in left eye.</p> <p>Diagnostic Testing Visual acuity with glass 6/24; 6/36 with Pin Hole 6/24; 6/36 not correctable with glasses Dilated Fundus Examination Media Immature senile cataract : OD Pseudophakia: OS Disc Normal Shape: circular Color: Pinkish yellow Margin: Well defined. CD ratio: 0.3 Blood vessels: Normal calibre, no AV crossing, no haemorrhages. Foveal reflex: Normal OD Absent OS. OCT 3D Macula: Cystic space in macular region OS Central thickness: 187 micron OD 205 micron OS</p>	<p>Interventions</p> <ol style="list-style-type: none"> 1. <i>Gokshuradi Guggulu</i> (500mg) after breakfast and dinner with lukewarm water. 2. <i>Punaranavashtaka kwatha</i> (40ml BD before food). 3. <i>Chandraprabha Vati</i> (500mg with lukewarm water, after breakfast and dinner). 4. <i>Rasnasaptaka kwatha</i> (20ml BD before breakfast and dinner).
<p>28th November 2022</p>	<p>Diagnostic Testing Visual Acuity with glass 6/18p; 6/24p with Pin Hole 6/18p; 6/24p OCT 3D Macula Thickness of Cystic space in macular region OS reduced. Central thickness: 188 micron OD 191 micron OS</p>	<ol style="list-style-type: none"> 1. <i>Gokshuradi Guggulu</i> (500mg with lukewarm water, after breakfast and dinner). 2. <i>Punaranavashtaka kwatha</i> (40ml BD before food). 3. <i>Chandraprabha Vati</i> (500mg with lukewarm water, after breakfast and dinner). 4. <i>Rasnasaptaka kwatha</i> (20ml BD before breakfast and dinner). 5. <i>Saptamrita Lauha</i> (500mg) + <i>Laghmalini Vasant Rasa</i> (250mg) + <i>Mahatriphala Ghrita</i> (1/2 TSF) + Honey (1.5 TSF) with milk AF.
<p>12th December 2022</p>	<p>Diagnostic testing Visual acuity with glass 6/18p; 6/24 with Pin Hole 6/18p; 6/24 OCT 3D Macula Thickness of Cystic space in macular region OS reduced. Central thickness: 244 micron OD 183micron OS</p>	<ol style="list-style-type: none"> 1. <i>Gokshuradi Guggulu</i> (500mg with lukewarm water, after breakfast and dinner). 2. <i>Punaranavashtaka kwatha</i> (40ml BD before food). 3. <i>Chandraprabha Vati</i> (500mg with lukewarm water, after breakfast and dinner). 4. <i>Rasnasaptaka kwatha</i> (20ml BD before breakfast and dinner). 5. <i>Saptamrita Lauha</i> (500mg) + <i>Laghmalini Vasant Rasa</i> (250mg) + <i>Mahatriphala Ghrita</i> (1/2 TSF) + honey (1.5 TSF) with milk after breakfast and

		dinner.
23 January 2023	<p>Visual acuity with glass 6/12; 6/18 with PH 6/12; 6/18</p> <p>OCT 3D Macula Thickness of Cystic space in macular region OS reduced. Central thickness: 187 micron OD 181 micron OS</p>	<ol style="list-style-type: none"> 1. <i>Gokshuradi Guggulu</i> (500mg with lukewarm water, after breakfast and dinner). 2. <i>Punaranavashtaka Kwatha</i> (40ml bd before food). 3. <i>Chandraprabha Vati</i> (500mg with lukewarm water, after breakfast and dinner). 4. <i>Rasnasaptaka kwatha</i> (20ml) BD before breakfast and dinner). 5. <i>Saptamrita Lauha</i> (500mg) + <i>Laghumalini Vasant Rasa</i> (250mg) + <i>Mahatriphala Ghrita</i> (1 TSF) + honey (1.5 TSF) with milk after breakfast and dinner.

Figure 1: SD Optical coherence tomography 3D Macula Before Treatment

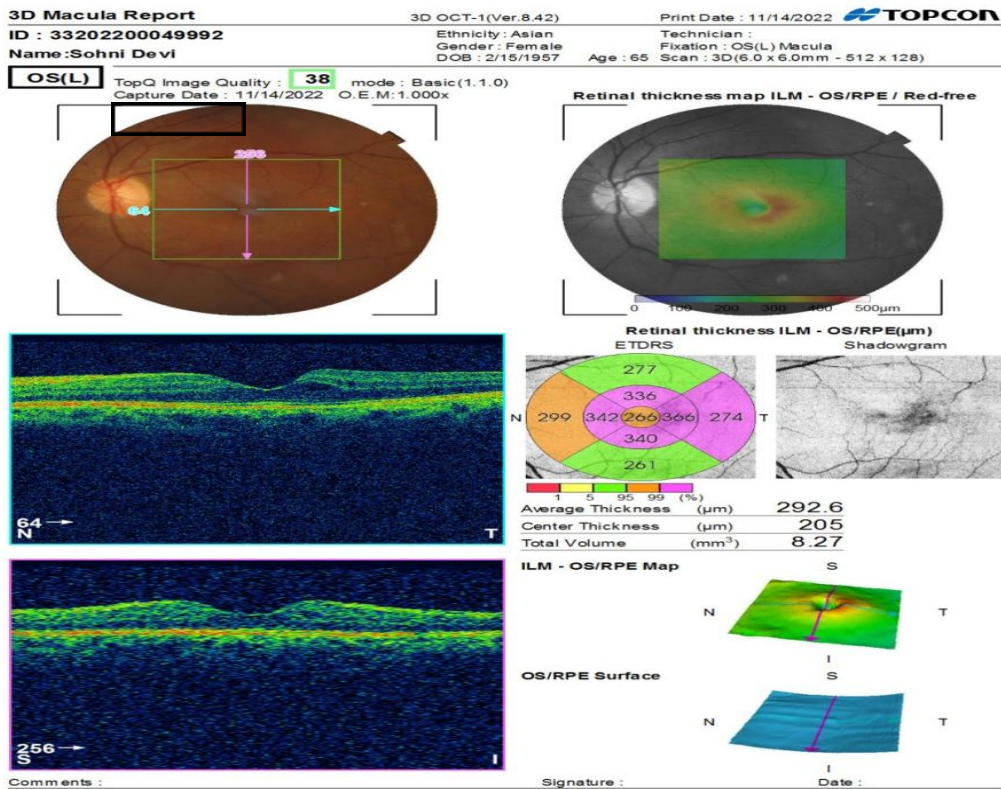
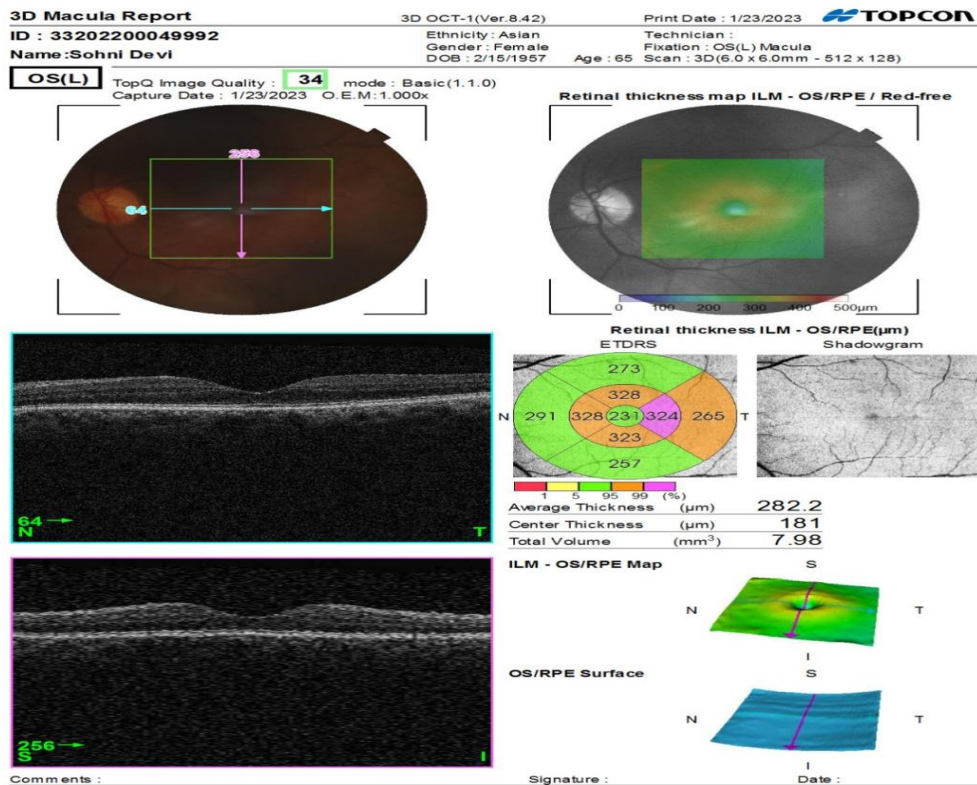


Figure 2: SD Optical coherence tomography 3D Macula After Treatment



DISCUSSION

Patient came with chief complaints of blurring of vision and discomfort in left eye for 3 months. Other ocular pathologies are checked out through testing. Assessment was done and diagnosis was made as *Vataja Timira (Drishtigata Vyadhi)* with special reference to Cystoid Macular Oedema along with that *Drishti Ashrita Shotha*. According to symptoms it is *Prathampatalgata (Tejoalashrita)*, *Ras-Rakta Dhatu Dushtijanya Vyadhi*. Line of treatment was followed accordingly. Initially *Marga Vishodhana* was done because of that *Vattaanulomana* occurred, *Raktapitta Nashaka Chikitsa*, *Shoshana Chikitsa* done to absorb inflammatory cells as it is an inflammatory disease according to modern and later on *Brimhana Chikitsa* and *Rasayan Chikitsa* were done to remove the *Vranan Vastu* formed during inflammatory process. *Gokshuradi Guggulu* is helpful in drainage of fluid accumulated because of inflammation same as Acetazolamide of Allopathy medicine and also has *Deepana pachana* properties. *Punarnavasthaka kwatha* is helpful to cope up VEGF and ischemic assault of retina and choroid (Internal retinal barrier breakdown, increase in vascular permeability and neovascularisation) and is *Rasayana* for tissue damage as it has capacity to regenerate. *Rasnasaptaka kwatha* is *Vataanulomaka*, *Vatavyadhi shamaka* and CME is an inflammatory disease and according to Ayurveda none inflammation occurs without *Vata* involvement. *Chandraprabha Vati* is *Rasa-Rakta dhatu janya dosha nivaraka (Urdava raktapita disease Pandu and Kamla)*, *Rasayana* so it

relaxes complete body, alleviate stress by maintain oxygen level in blood. *Saptamrita Lauha* is a *Chakshusya Rasayana* and is helpful in *Shotha* and *Oedema*. In CME nutrition is hampered so *Laghumalini Vasant Rasa* is helpful to cure *Kshaya*. *Mahatriphla Ghrita* is *Vatta Dosha shamak*, *Brimhana*, *Drishti prasadaka* and has anti-inflammatory properties.

CONCLUSION

This case study reveals that patient with CME through modern is not properly managed and can develop other side effects of medicines but it can gain significant results through Ayurveda management which is effective, patient friendly and cost effective by improving quality of vision & repair the detached area. Though CME is a self-limiting disease but it has high recurrence rate so treatment must be done to protect further visual loss. The present case anticipates the fruitful approach of Ayurveda science in dealing with CME.

REFERENCES

1. Gass JD, Norton EW. Follow up study of cystoid macular edema following cataract extraction. *Trans Am Acad Ophthalmol Otolaryngol.* 1969; 73: 665-682.
2. Hogan P, Dall T, Nikolov P. American Diabetes Association: Economic costs of diabetes in the US in 2002. *Diabetes care.* 2003; 26: 917-932.
3. Michel CC. Fluid exchange in the microcirculation. *J Physiol (Lond)* 2004; 557(Pt3): 701-702.

4. Jacob M, Chappell D, Becker BF. Regulation of blood flow and volume exchange across the microcirculation. Crit Care 2016; 20(1): 319.
5. Spaide RF. Retinal vascular cystoid macular edema: Review and New Theory. Retina 2016; 36(10): 1823-1842.
6. AK Khurana, Aruj K Khurana: comprehensive ophthalmology 4th edition p.273.
7. Sushrut Samhita Uttara Tantra Drishtigata rogavigyaniya adhyaya 7/19. Ayurveda Tattva Sandipika by Kaviraja Ambika dutta Shastri, Chaukhamba Sanskrit Sansthan Varanasi reprint, 2011; 43.
8. Sarangadhara Samhita, Madhyama Khanda 7/84-87 by Dr.Brahmanand Tripathi, Chaukhamba Surbharati Prakashan Varanasi reprint, 2010;206.
9. Bhaisajya Ratnavali, Udararoga 42/14 by Prof Siddhi Nandan Mishra, Chaukhamba Surbharati Prakashan Varanasi reprint, 2012;768.
10. Saragadhara Samhita, Madhyama Khanda 7/40-49 by Dr.Brahmanand Tripathi, Chaukhamba Surbharati Prakashan Varanasi reprint, 2010;201.
11. Chakradatta Aamvatta Rogadhikar 25/8 by Vaidya Ravidatta Sastri, Chaukhamba Surbharati Prakashan Varanasi reprint, 1992; 117.
12. Bhaisajya Ratnavali Shoolarogadhikara 30/125-126 by Prof Siddhi Nandan Mishra, Chaukhamba Surbharati Prakashan Varanasi reprint 2012; 628.
13. Yogratanakarvidyotini Jwaradhikara 1-4 hindi tika by Vaidya Laksmipati Sashtri, Chaukhamba Prakashan Varanasi; 245.
14. Astangahrdayam, Uttarasthan, *Timira pratishedadhaya* 13/12-13, Chaukhamba Sanskrit Pratisthan reprint 2019; 966.

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