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Age Related Macular Degeneration: A Case Study

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ABSTRACT

Age Related Macular Degeneration or ARMD is a degenerative disease associated with ageing that affects the macula and causes gradual loss of central vision. It is the leading cause of the vision loss and blindness in developed countries, in population above the age of 40 years. It is caused by hardening of small arteries supplying oxygen and nutrients to the retina which deprives the macula of oxygen and nutrition results in a slow but progressive loss of vision. Modern side provides zinc supplement, antioxidants, vitamins at early stage and laser photo coagulation in later stage but not very effective in reversing the progression of vision loss. *Ayurveda* can provide a suitable answer with *Rasayana* and *Kriyakalpa* and helpful in stoppage of progression of disease. A diagnosed case of Wet ARMD with complaints of ocular pain and diminished vision of left eye since one year approached the out-patient division of the hospital and was managed by *Rasayana*, *Nasya*, *Tarpan*, *Takradhara*. Significant improvement was noticed in vision after the treatment. Result obtained was encouraging and restricted disease progression was observed.

KEYWORDS

Ayurveda, *Kriyakalpa*, *Nasya*, *Rasayana*, *Tarpana*



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INTRODUCTION

Age-related macular degeneration (AMD) is the leading cause of blindness in individuals over the age of 50 in the developed countries. In the industrialized nations, the incidence of AMD is increasing due to the growth in the aging population. Early manifestations of AMD include focal drusens associated with minor visual complaints, but the later stages of the disease result in severe vision loss. Then on- exudative or dry form of AMD is approximately 10 times more prevalent than the exudative form of AMD but the exudative form is the leading cause of blindness from AMD. The pathogenesis of AMD is incompletely understood. Age is the most important risk factor for AMD. However, AMD is a multifactorial disease with susceptibility established by genetic and environmental factors influencing its penetrance and severity ¹. It is caused by hardening of small arteries supplying oxygen and nutrients to the retina which deprives the macula of oxygen and nutrition results in a slow but progressive loss of vision ². In *Ayurvedic* perspective, it can be correlated with *Vatika Timira* on the basis of symptoms like *Vyavidha Darshana* (images appeared to be curved), *Rajo-Dhumavrita* (blurred vision) caused mainly due to vitiation of *Vata Pitta Dosha*,

affecting *Rakta, Mamsa, Meda, Asthi* and *Majja Dhatu* of *Akshi*.

Modern side provides zinc supplement, antioxidants, vitamins at early stage and laser photo coagulation in later stage but not very effective in reversing the progression of vision loss. *Ayurveda* can provide a suitable answer with *Rasayana* and *Kriyakalpa* and helpful in stoppage of progression of disease.

CASE REPORT

A 38 years old fully conscious, a febrile normal oriented female visited eye OPD of Shalaky department, I.P.G.T & R.A, Jamnagar dated 10/03/2018 with chief complaints of ocular pain, scotoma and flashes of light in left eye since four months. She was also complaining of diminished distant vision and near vision of left eye since one year. After visiting an ophthalmologist at other hospital, she went for OCT (Optical coherence tomography) of both eye. She was diagnosed as case of Wet ARMD of left eye. She was told that her vision will deteriorate gradually in left eye and other eye can also be affected. She has no medical family history. She was addicted of tobacco chewing. No history of diabetes, cardiovascular disease. But she was diagnosed for hypertension and was suffering from anemia since past one year.



She was on antihypertensive medications and nutrient supplements for disease as prescribed by ophthalmologist. *Ayurvedic* treatment was started on 10.03.2018 after taking her consent.

Clinical findings: Patient was afebrile. Pulse was 78/minute. Respiratory rate was 18/minute and blood pressure was 150/90 mmHg. No abnormality was noticed in the functioning of respiratory, circulatory or digestive systems.

Visual examination: Distant visual acuity by Snellen chart in right eye was 6/6 and left eye was 6/18. Pin hole correction in right eye was 6/6 and left eye was 6/18. Near vision without spectacles was N8 in both eyes and with correction N6 in both eyes.

Ocular examination: Eyelids, conjunctiva, sclera, cornea and anterior chamber were normal in both eyes. Pupils were of normal size and of normal reaction. Both lens were clear. Intra Ocular Pressure [IOP] by Schiottz Tonometry was 14.6 mmHg in both the eyes. Direct Ophthalmoscopy revealed age related macular degeneration with choroidal neovascularization (CNVM) in both eyes. On amsler grid test patient observed wavy lines on temporal side with left eye.

Dashavidha Pareeksha (~Tenfold Examination): *Prakriti* of the patient was *Vatapitta*. *Vatapradhanatridoshavikriti*

such as *Vyavidhdadarshana* (images appeared to be curved), *Rajo-Dhumavrita* (blurred vision) was observed during the analysis. *Satwa* (~psyche), *Sara* (~excellence of tissues), *Samhanana* (~compactness of organs), *Aharashakti* (~power of food intake and digestive functions), *Vyayamashakti* (~power of performing exercises), *Satmya* (~suitability) and *Pramana* (~measurements of body organs) of the patient were of *Madhyama* (~moderate) level.

Ashtavidha Pareeksha (~Eight fold Examination): *Nadi* (~pulse), *Mutra* (~urine) and *Shabda* (~voice) were *Sadharana* (~normal). Bowels were regular, *Jihwa* (~tongue) was *Anupalepa* (~non coated), *Sparsha* (~touch) was *Anushnasheeta* (~normal temperature), *Akriti* (body built) was *Madhyama* (~moderate) and *Drik* (vision) was *Heena* (~diminished vision).

Sroto Pareeksha (~Examination of body channels): *Rasavahasrotas* (nutritive channels), *Raktavahasrotas* (~blood circulating channels) are involved in this manifestation and the pathology is *Vimargagamana* (~flowing abnormal or in opposite directions) and *Atipravitti* (~growth of new vessels) that possibly manifested as drusens in between pigment



epithelium and bruch's membrane and growth of new vessels in choroid.

Diagnostic assessment: Fundus examination revealed drusens on macula and choroidal neo vascularization which

was earlier confirmed by OCT (Optical coherence tomography). Hematological findings were within normal limits except haemoglobin which was 9mg/dl.

Table 1 Pre-Therapeutic interventions adopted

Purpose	Drug	Dose	Anupana	Duration
Deepana-Pachana	TrikatuChurna	2-3gm	Lukewarm water	Two times before food for 7 days
Koshthashodhana	ErandabhrishtaHaritaki	2-3gm	Lukewarm water	At bed time for 7 days
Urdhwa-sodhana	AnuTaila	2 drops in each nostril		In the morning for 7 days
ShamanaYoga	1) Rasayanachurna 2) Saptamritalauha 3) Ashwagandhachurna 4) Shatavarichurna	3gms 500mg 1gm 1gm	Ghee	In morning and evening after food for 7 days

Table 2 Therapeutic interventions adopted

Purpose	Drug	Dose	Anupana	Duration
ShamanaNasya	KsheerbalaTaila	8 drops		In the morning 7 days in the beginning
Shirodhara (Takra as a vehicle)	1)Mustachurna 2)Amalakichurna	1gm 1gm		15 days in 3 sittings. 7 days gap in between for 2 months, for 15 mins
ShamanaYoga	1) Rasayanachurna 2) Saptamritalauha 3) Ashwagandhachurna 4) Shatavarichurna	3gms 500mg 1gm 1gm	Ghee	In morning and evening after food for 2 months

Therapeutic intervention: The interventions adopted in the present case are placed at Table-1 and Table 2. It was decided to continue the same intervention for 2 months more where, in place of Nasya started Tarpan with Jivantyadi Ghrita one sitting for 7 days in the morning followed by Shirodhara and Rasayana Chikitsa. Two follow-ups were done with an interval of 15 days.

RESULTS

Patient showed marked improvement in visual symptoms like metamorphopsia,

scotoma and distant visual acuity [Table - 3]. Complete relief was observed in ocular pain and photopsia after first session. Fundus examination revealed non-progression of pathology in left eye [Fig. 3-4]. On amsler grid test wavy lines was not observed by patient on temporal side. Visual acuity was maintained during the follow-up period.

DISCUSSION

ARMD is nothing but Vatika Timira caused mainly due to vitiation of Vata Pitta dosha, affecting Rakta, Mamsa, Meda, Asthi and



Table 3 Improvement in vision

	RIGHT EYE		LEFT EYE	
	BT	AT	BT	AT
DVA unaided	6/6	6/6	6/18	6/9
pH	6/6	6/6	6/18	6/6
NVA	N8	N8	N8	N8
Best corrected NVA	N6	N6	N6	N6

DV- Distant Vision; PH- Pin Hole Correction; NV- Near Vision

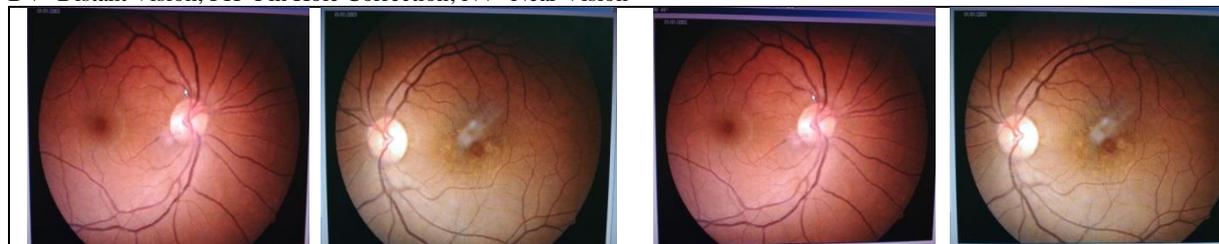


Fig 1: Fundus photo right eye before treatment. Normal picture with hyper pigmented macula

Fig 2: Fundus photo left eye before treatment. Drusens on macula with choroidal haemorrhage

Fig 3: Fundus photo right eye after treatment. No changes observed.

Fig 4: Fundus photo left eye after treatment. No progression observed.

Majja Dhatu of Dristi. The line of treatment in ARMD cases should be *Vata Pitta Shamaka, Srotas Shodhan* and *Rasayanachikitsa*. In first step *Deepana Pachana* was done to remove *Ama* which is the main cause for developing pathology of ARMD. There is *Vyana Vayu Vaishamy* in ARMD responsible for imbalance in exchange of materials between retinal pigment epithelium and choriocapillaries, so *Koshtha Shodhana* was done with *Erandabhrishtha Haritaki* for *Anlomana of Vayu*. *Acharya Charaka* and *Vagbhata* describe *NASA* as *Sirasodwaram*, which is the easiest and adjoining opening for administration of medicines to the cranial cavity. *Nasya Karma* provides strength to the *Indriya* and also do *Srotoshodhana*. *Nasya* was done with *Ksheerabala Taila* due to its *Vata Shamaka*³ property and help

to correct the *Vayana Vayu Vaishamy*. *Takradhara Siddha* with *Musta*⁴ and *Amalaki* was used where both the drugs have *Rakta-pitta Shamaka* action. Also helpful in removing *Srotoavarodha* which might be responsible for improvement in distant vision. *Amalaki* is known for its *Rasayana* and anti-oxidant properties⁵ which are helpful in removal of *Ama* and rejuvenation of structures of retina. *Rasayana Yoga* might help in strengthening vascular channels and prevent further progression of disease.

Patient was on only antihypertensive medications without any other *Ayurvedic* or allopathic treatment. In the last session, she taken medications for back pain. Hence, in the entire treatment period she underwent the treatment purely for Wet ARMD. No adverse events were noticed during the



course of treatment and follow-up period too.

CONCLUSION

Thus, it can be concluded that *Ayurvedic* approaches are helpful in managing age related disorders. This study emphasizes on the importance of integrated approach in healthcare. Considering such beneficial activities of *Ayurveda* approaches; there is a need to undertake collaborative researches to generate evidences at larger scale in the management of Wet ARMD.

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Conflicts of Interest: None declared



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