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## Ayurveda And Macular Health: Classical Solutions For Age-Related Macular Degeneration - A Case Report.

**Dr. Kirti Sengaonkar<sup>1</sup>, Dr. Santosh Rahinj<sup>2\*</sup>, Dr. Mayur Shiralkar<sup>3</sup>, Dr. Pallavi Jagtap<sup>4</sup>,  
Dr. Anand Kale<sup>5</sup>, Dr. Pranav Sharma<sup>6</sup>.**

1. PG Scholar, Department of Shalakya Tantra, Dr. D.Y. Patil College of Ayurved & Research Centre Dr. D.Y. Patil Vidyapeeth Pune (Deemed to be University) Sant Tukaram Nagar Pimpri, Pune- 411018. Mobile No. –8208921767, ORCID ID- 0009-0006-1065-5109.  
Email: [sengaonkarkirti07@gmail.com](mailto:sengaonkarkirti07@gmail.com)
2. \*Associate Professor, Department of Shalakya Tantra, Dr. D.Y. Patil College of Ayurved & Research Centre Dr. D.Y. Patil Vidyapeeth Pune (Deemed to be University) Sant Tukaram Nagar Pimpri, Pune- 411018. Mobile No. – 8600866097, ORCID ID- 0000-0001-6981-3980.  
Email: [santoshrahinj@yahoo.in](mailto:santoshrahinj@yahoo.in)
3. Professor and HOD, Department of Shalakya Tantra, Dr. D.Y. Patil College of Ayurved & Research Centre Dr. D.Y. Patil Vidyapeeth Pune (Deemed to be University) Sant Tukaram Nagar Pimpri, Pune- 411018. Mobile No. – 9422007951, ORCID ID- 0000-0001-5619-9088.  
Email: [mayur.shiralkar@dpu.edu.in](mailto:mayur.shiralkar@dpu.edu.in)
4. Professor, Department of Shalakya Tantra, Dr. D.Y. Patil College of Ayurved & Research Centre Dr. D.Y. Patil Vidyapeeth Pune (Deemed to be University) Sant Tukaram Nagar Pimpri, Pune- 411018. Mobile No. – 8983535924, ORCID ID- 0000-0001-7985-2553.  
Email: [pallavibhor78@gmail.com](mailto:pallavibhor78@gmail.com)
5. Assistant Professor, Department of Shalakya Tantra, Dr. D.Y. Patil College of Ayurved & Research Centre Dr. D.Y. Patil Vidyapeeth Pune (Deemed to be University) Sant Tukaram Nagar Pimpri, Pune- 411018. Mobile No. – 9890628486, ORCID ID- 0000-0002-0789-5500.  
Email: [vdanandkale@gmail.com](mailto:vdanandkale@gmail.com)

6. PG Scholar, Department of Shalakya Tantra, Dr. D.Y. Patil College of Ayurved & Research Centre Dr. D.Y. Patil Vidyapeeth Pune (Deemed to be University) Sant Tukaram Nagar Pimpri, Pune- 411018. Mobile No. – 7973886352, ORCID ID- 0009-0009-1837-8670.  
Email: [pranav7sharma@gmail.com](mailto:pranav7sharma@gmail.com)

**Corresponding Author :Dr. Santosh Rahinj**

(\*Associate Professor, Department of Shalakya Tantra, Dr. D.Y. Patil College of Ayurved & Research Centre Dr. D.Y. Patil Vidyapeeth Pune (Deemed to be University) Sant Tukaram Nagar Pimpri, Pune- 411018. Email: santoshrahinj@yahoo.in, Mobile No. – 8600866097, ORCID ID- 0000-0001-6981-3980.)

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**ABSTRACT**

**INTRODUCTION** - Age-related Macular degeneration (AMD) is a chronic condition of Macula leading to central distortion of vision and this condition mostly affects old age people. According to *Ayurveda*, AMD can be correlated with *Vataj Timira* based on the similarities of the symptoms. There are very few intervention methods for AMD in modern science. Therefore, the primary aim of this study was to identify treatment protocol for AMD with the help of *Ayurveda* as the modern drugs always possess the risk of certain side-effects.

**CASE REPORT** – A 62-year-old patient was selected from Shalakya Tantra OPD of Dr. D. Y. Patil College of Ayurved & Research Centre, Pimpri, Pune for this case study. The primary complaints of patient were diminished and distorted vision especially in the centre from last 6 months; other associated complaints were perception of black spots along with delayed dark adaptation.

**DIAGNOSIS & INTERVENTION** – The patient was examined and diagnosis was confirmed by performing a comprehensive eye examination of anterior and posterior segment (funduscopy) along with the aid of Amsler grid. The treatment regime consisted of local as well as systematic management which consisted of *netra tarpana* and *snigdha virechana* etc.

**OUTCOME** – The patient showed improvement in various parameters after the completion of study.

**KEYWORDS** – Age-related Macular degeneration (AMD), *Vataj Timira*, *Netra Tarpana*.

**1. INTRODUCTION:** As the name implies, age-related macular degeneration is an aging condition. Central vision loss is the result of this progressive macula-related ocular disease. AMD falls into two categories: "dry" and "wet." For those over 60, it is one of the main cause of visual loss. Age, heredity, smoking, and other variables are among the risk factors that lead to AMD development. Understanding these risk factors is critical to its prevention. Reading difficulties, distortion of straight lines, and fuzzy vision are some of the early signs of AMD. AMD can also be characterized by presence of drusen and degenerative changes in the macular region of the retina which are seen by funduscopy. It is critical to identify these signs and seek out prompt medical care in order to start treatment as soon as possible.

The symptoms of *Vataj Timira*, a condition caused by vitiated *vata dosha*, include centrally distorted and blurred vision, which are clinically similar to AMD. As a result, we can correlate *vataj timira* with AMD. This allows us to use the *vataj timira* therapy regimen, which includes treatment with *shaman chikitsa* (alleviating management), *virechana* (detoxification), and *nasya* (instillation of medicated oil in nose). Moreover, *vata dosha* predominates in the body during old age; so, treatment for *vata dosha* is necessary to restore it to a normal and balanced condition.

The current methods of treating AMD, which include intravitreal medications, antioxidant supplements, and other treatments, are ineffective and may even cause adverse consequences. Therefore, the ayurvedic treatment regimen in this case study is utilized to treat AMD, which is a natural form of therapy with a minimal risk of adverse effects of any type.

## **1. MATERIALS AND METHODS**

### **a) PATIENT INFORMATION:**

- i. Age: 62 years
- ii. Gender: Male
- iii. Education: Graduate
- iv. Marital status: Married

**b) CHIEF COMPLAINT:** The chief complaints of patient were diminished and distorted vision especially in the central vision from last 6 months, other associated complaints were perception of black spots along with delayed dark adaptation.

He has a known condition of Hypertension from last 20 years.

**c) FAMILY HISTORY:** No significant history related to the disease.

**d) CLINICAL FINDINGS**

**Table 1:** Local Eye Examination

Structure		Right eye	Left Eye
Eyelids		Within Normal Limit	Within Normal Limit
Conjunctiva		No congestion	No congestion
Sclera		Within Normal Limit	Within Normal Limit
Cornea		Within Normal Limit	Within Normal Limit
Anterior chamber		Within Normal Limit	Within Normal Limit
Iris		Regular pattern	Regular pattern
Pupil		Round and Reactive	Round and Reactive
Lens		Nuclear Sclerosis (I)	Nuclear Sclerosis (I)
IOP		14 mmHg	14 mmHg
Vision	Distant	6/24 (without aid) 6/12 (with aid)	6/24 (without aid) 6/12 (with aid)
	Near	N12 (without aid) N6 (with aid)	N12 (without aid) N6 (with aid)

**Table 2:** Fundus Examination

Examination	Right Eye	Left eye
Media	Nuclear Sclerosis (I)	Nuclear Sclerosis (I)
Optic disc	0.3:1	0.3:1
Macula	Drusen ++	Drusen ++
Blood vessels	Normal	Normal

e) **TREATMENT****Table 3:** Treatment given to the patient.

Sr. No.	Treatment		
<b>1</b>	<b><i>Sanshodhan Chikitsa (Detoxification)</i></b>		
a)	<i>Snigdha virechana</i>	<i>Eranda Taila</i>	7 days
<b>2</b>	<b><i>Sanshaman Chikitsa (Alleviating)</i></b>		
a)	<i>Jeevaniye mahakashaya kwath</i>	10 ml bid	30 days
b)	<i>Shukra janan mahakashaya</i>	10 ml bid	30 days
c)	<i>Saptamrita Lauha</i>	2 tablet bid	30 days
d)	<i>Ashwagandhadi vati</i>	1 tablet bid	30 days
<b>3</b>	<b>Local Chikitsa</b>		
a)	<i>Netra tarpana</i>	<i>Yashtimadhu ghrita</i>	7 days
b)	<i>Nasya</i>	<i>Ashwagandha taila</i>	7 days

#### 4. OBSERVATION & RESULTS

##### Observations:

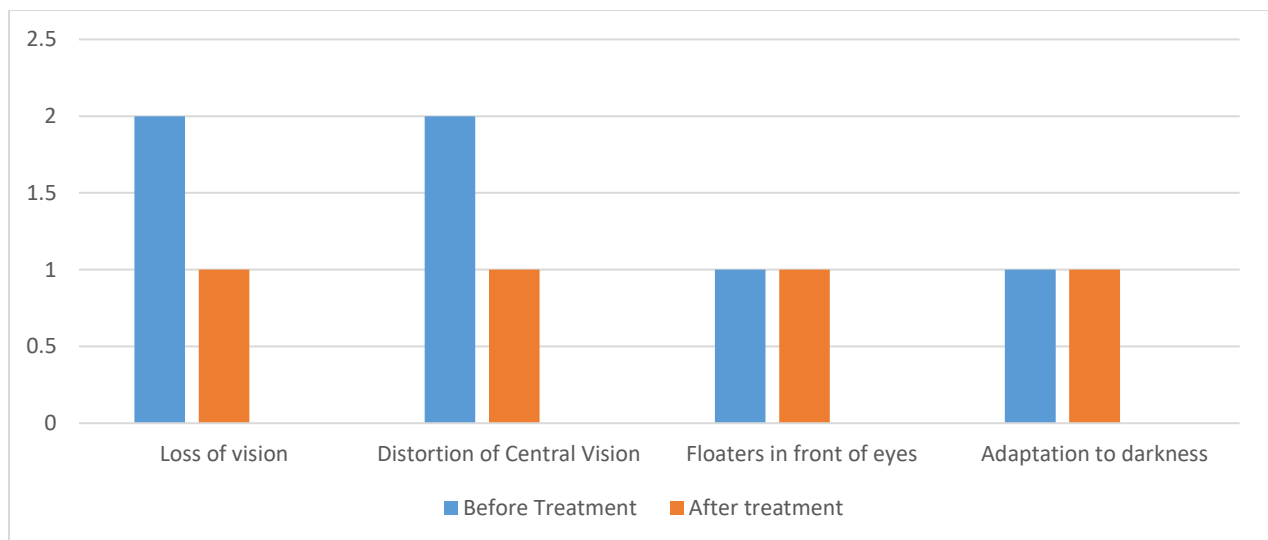
**Table 4:** Gradation Scale for Dry AMD<sup>(9)</sup>

Sr. No.	Gradation as per various symptoms	
<b>1</b>	<b>Loss of vision</b>	
	<b>Grade 0</b>	No loss of vision
	<b>Grade 1</b>	Reduced eyesight, without impeding daily activities
	<b>Grade 2</b>	Occasionally having trouble doing daily activities
	<b>Grade 3</b>	Frequently having trouble doing daily activities
<b>2</b>	<b>Distortion of Central Vision (Evaluation done with aid of Amsler's grid)</b>	
	<b>Grade 0</b>	No distortion of central vision
	<b>Grade 1</b>	The lines are twisted or uneven
	<b>Grade 2</b>	The boxes seemed to differ from one another in terms of size and form.
	<b>Grade 3</b>	Lines and boxes are absent or wavy.
<b>3</b>	<b>Floaters in front of eyes</b>	
	<b>Grade 0</b>	No floaters
	<b>Grade 1</b>	Rarely interfering with daily tasks
	<b>Grade 2</b>	Frequently obstruct regular work tasks
	<b>Grade 3</b>	Incapable of carrying out regular tasks
<b>4</b>	<b>Adaptation to darkness</b>	
	<b>Grade 0</b>	Acclimation to darkness in less than ten seconds
	<b>Grade 1</b>	Gradual acclimation to darkness within twenty seconds
	<b>Grade 2</b>	Gradual acclimation to darkness within thirty seconds
	<b>Grade 3</b>	Slowest dark acclimation, taking $\geq$ sixty seconds

**Table 5:** Observations (Before & After Treatment)

Criteria	Before treatment	After treatment
Loss of vision	2	1
Distortion of Central Vision (Evaluation done with aid of Amsler’s grid)	2	1
Floaters in front of eyes	1	1
Adaptation to darkness	1	1

**Graph 1:** Observations (Before & After Treatment)



Observations (Before & After Treatment)

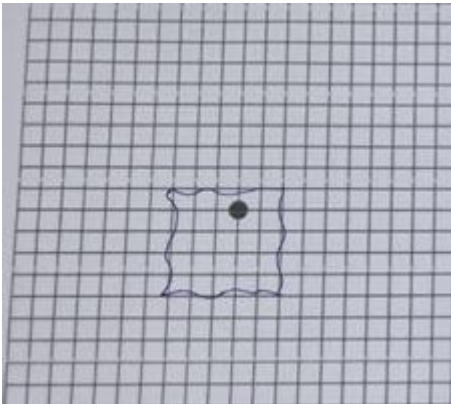
**RESULTS:**

**a) BEFORE TREATMENT**

**Figure 1** – Fundus image of left eye before treatment



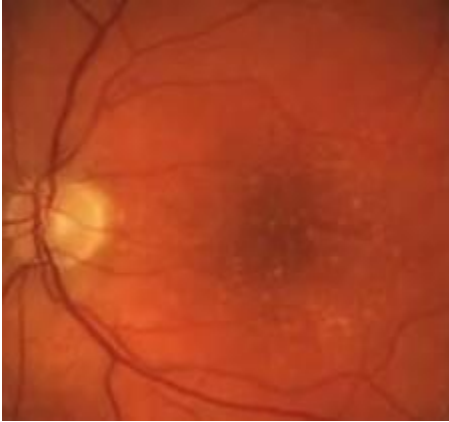
**Figure 2** – Amsler Test before treatment



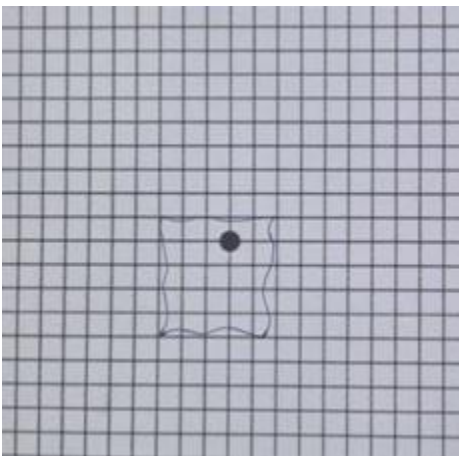


**b) AFTER TREATMENT**

**Figure 3 - Fundus image of left eye after treatment**



**Figure 4 - Amsler Test after treatment**



**5. DISCUSSION:**

AMD is a degenerative condition linked to aging that damages the macula and gradually leads to impairment of central vision. Based on symptoms, AMD and *Vataj Timira* can be co-related. *Vata dosha* predominates during old age and it causes degeneration of the ocular tissues, therefore, it is necessary to balance the *Vata dosha* and keep it in a balanced state so that the degeneration process can be delayed as long as possible. To balance the *vata dosha*, “*Snehana (oleation)*” is the best method described by *acharya charak*.

**Netra tarpana** helps to prevent the degeneration of the retina and optic nerve by increasing blood circulation and supply of essential nutrients to the macula. The mode of action of *netra tarpana* is that it helps in vaso-dilation of the blood capillaries of the local ocular tissues resulting in more blood circulation and due to its unctuous nature, it stays for longer duration increasing the bio-availability of the medicinal drug. *Yashtimadhu* (*Glycyrrhiza glabra*) is mentioned as a very potent drug for eye diseases in ayurvedic classical texts. It has properties like rejuvenating, anti-oxidant, anti-inflammatory and provides immunity.

According to Ayurvedic classical texts, It is believed that **Nasya** helps to deliver medicinal drug properties directly to the brain and as a result it helps in improving the sensory organs health and bring calmness to the patient. It is also used for various kind of eye disorders.

**Snigdha Virechana** helps in detoxification of the body and *Acharya Sushruta* has mentioned it for the treatment of *Vataj Timira*.

**Jeevaniya Mahakashaya:** This formulation is rich in rejuvenating properties which are useful in promoting healing and overall well-being. It provides micro-nutrients at the micro-cellular levels which aids in formation of new healthier cellular tissues and thereby increasing strength and immunity.

**Shukra Janana Mahakashaya:** All the body organs are made up of tissues and tissues are made up of cells and all this process begins with *Shukra dhatu*. Therefore, drugs which are promoter of *Shukra dhatu* are required to repair the damaged cells of macula. This formulation contains drugs that are of similar characteristics like *Shukra dhatu* resulting in development of *Shukra dhatu* and as a result it facilitates growth of new and healthier cells.

**Saptamrita Loha:** They are helpful in providing strength and micro-nutrients to the ocular tissues. It is one of the most used ayurvedic medicine for various kinds of eye disorders. It consists of *Amla* (*Emblica officinalis*), *Haritaki* (*Terminalia chebula*), *Vibhitak* (*Terminalia bellerica*) and *Loha* (Iron) which consists of properties like anti-oxidants, immune-modulators and anti-inflammatory.

**Ashwagandha Vati:** It is helpful in pacifying stress, fatigue and provides strength and immunity to the body.

In this case study, although there were no major improvements observed in the fundoscopy of the patient after completion of the trial period as seen in figure 1 & 3, but there were significant improvements in the symptoms as shown in Table 6 (Observation Before & After Treatment) and patient had not complained of any side-effects of treatment throughout the trial period. This shows that the ayurvedic medicinal treatment can offer us same or better results in comparison to modern medicine system with lower risk of side-effects. However, more such clinical comparative studies need to be done on larger group of patients to establish this statement.

## **6. CONCLUSION:**

AMD is a macula degenerative disorder that causes distortion in the center of vision. Risk factors for AMD include genetics, smoking, and high blood pressure. Ayurveda provides inexpensive and organic methods for improving eyes. Ayurvedic medicines which are abundant in properties like anti-oxidants, anti-inflammatory, immune-modulator, etc. are helpful in providing micronutrients to the macula, and provides protection to the ocular tissues. The disease can be efficiently controlled in early stages and efforts should be made by both, physician and patient to halt the further progression of this disease.

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