



Case Study

## COMPREHENDING AYURVEDIC MANAGEMENT IN RETINITIS PIGMENTOSA

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### ABSTRACT


Retinitis pigmentosa (RP) is a genetically acquired degenerative eye disorder in which the light sensitive retina's photoreceptors slowly and progressively deteriorate and die, leading to vision loss and blindness. It almost occurs invariably in both eyes, beginning in childhood and often resulting in blindness in middle or advanced age. It causes progressive degeneration of rods and cones photoreceptor cells, particularly the former one. The evident symptoms include nyctalopia (night blindness) followed by concentric visual field loss due to degeneration of rods, which are solely responsible for vision in low light. According to Ayurveda, the sign and symptoms are analogous with *Shleshvidagdha Drishti*, *Nakulandhya*. Case and Intervention: A 35 years old male patient presented to eye OPD of Patanjali Ayurveda Hospital, Haridwar, with diminished vision in night time, blurred vision during day and peripheral visual loss since 1 year. The visual acuity was 6/60 and 6/6P (with pinhole) in right eye and 5/60 and 6/9P in left eye. He previously went for advice from allopathic hospital and was diagnosed with RP with no particular treatment for the same. No specific family history was found. Presence of bony spicules on funduscopy, peripheral visual field loss and diminished night vision confirmed the diagnosis of RP. The patient underwent three courses of therapeutic procedures which consisted of multiple *Kriyakalpas* (eye treatment) along with oral medications. Conclusion: There is no apparent treatment for retinitis pigmentosa in modern medicine. The Ayurvedic regime effectively showcased marked improvement in visual field area loss hence paving a way for dispensing such benefits to other despaired RP patients.

### INTRODUCTION

Ayurveda comprising of two words *Ayur* means life and *Veda* means knowledge or science hence Ayurveda is entirely the science of life. It is divided into eight branches called *Ashtangayurveda*. One of them is *Shalaky tantra*, dealing with diseases of *Urdwajatru* i.e., supraclavicular region including eye, ear, nose, throat, head. *Acharyas* have mentioned prime importance of eyes among all the five sense organs as "*Sarvendriyaanam Nayanam Pradhanam*". Eyes (*Netra*) are the seat of sight or vision (*Darshana shakti*). Any impairment (*Vikriti*) in the vision is a definite sign of ocular diseases.

In Ayurvedic texts, various types of *Drishtigata rogas* (diseases affecting the innermost coat of eyeball i.e., retina) which includes *Shleshvidagdha Drishti* and *Nakulandhya* the former being a *Kapha* predominant *Sadhya Vyadhi* (curable) while the latter is described as a *Sannipataja* and *Asadhya Vyadhi*. In modern science these symptoms are congruous with the symptoms present in RP.

Retina consists of neural tissue and also has rods and cones which are end organs of vision and is light sensitive part of eye where the visual image of world is created by eye optics. RP/Primary Pigmentary Retinal Dystrophy is a hereditary degenerative disorder of retina predominantly affecting the rods more than cones.<sup>[1]</sup> RP has worldwide prevalence of 1:3000 to 1:4000 people. Males are more affected than female in ratio of 3:2.<sup>[2]</sup> Usually it starts in mid periphery, affecting both eyes and advancing towards macula and fovea centralis in later stage. Presenting

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symptoms are nyctalopia (night blindness), concentric visual field contraction and tubular vision left in advanced stage (age of 50-60 years).<sup>[3]</sup> RP is usually confined to eyes but may be associated with Usher syndrome and Laurence Moon Biedl syndrome. The ophthalmoscopic examinations reveals -Attenuated retinal arterioles, abnormal fundus with bony spicules and waxy pallor of optic disc.<sup>[4]</sup>

## MATERIALS AND METHODS

### Case Report

#### Patient Information and Clinical Findings

A 35-year-old male patient reported to eye OPD of Patanjali Ayurveda Hospital, Haridwar, with chief complaint of blurred vision in daytime and diminished vision at night time and visual field loss from past years. The patient did not complaint of any pain or discomfort in eye. There was no previous history of hypertension, DM, smoking or alcohol. There was no apparent family history present in the

knowledge of the patient. The patient was diagnosed with retinitis pigmentosa based on thorough examination, fundus examination and perimetry. Previously the patient also consulted with allopathic clinician and was advised Vitamin A supplements.

#### Clinical Findings

General examination revealed normal appetite, micturition and bowel movements. The vitals were also within normal limits. The ocular examination of the patient is presented in Table no. 1. A visual acuity of 6/60 & 6/6P (with pinhole) in right eye and 5/60 & 6/9P in left eye. IOP was within normal range. Fundoscopy findings comprised of bony spicules in peripheral retina and attenuated arterioles in both eyes.

#### Diagnostic Assessment

Patient was advised for perimetry to evaluate the visual field area loss.

**Table 1: Ocular Examination**

Head	Normal B/L
Eyebrows	Normal, symmetrical B/L
Eye lashes	Normal B/L
Eyelids	Normal B/L, no discolouration, oedema, drooping, adhesions
Conjunctiva, Sclera	No discolouration, adhesions, congestion B/L
Cornea	Transparent B/L
Iris	Normal B/L
Anterior Chamber	Normal depth B/L
Lens	Normal B/L
Pupil	Central, circular, eccentric, normally reacting to light B/L
BCVA (Best Corrected Distant Visual Acuity)	6/6P in right eye and 6/9P in left eye
Near Visual Acuity	N6 both eyes
NCT (Non-Contact Tonometry)	18 in right eye and 14 in left eye
Direct Ophthalmoscopy	Prominent bony spicules in peripheral retina B/L

#### Timeline

The patient visited eye OPD of Patanjali Ayurved Hospital on 3 October 2023. He was admitted in IPD for indoor treatment commencing from 4 October 2023. Total 3 visits were made by the patient for IPD treatments in the time span of 7 months. During each visit the patient was discharged after 7 days of treatments, and advised for follow up after 2 months. The complete timeline of treatment is presented in Table 2 and Table 3.

#### Therapeutic Intervention

The patient was advised an Ayurvedic regime which is mentioned in table 2.

**Table 2: First Visit**

Date	Therapeutic procedure	Name of drugs	Dose	Route	Duration
04/10/2023 to 6/10/2023	Anjana	Elaneer Kuzambhu	1-1 drop	Topical	3 days
	Nasyam	Ksheerbala taila	8-8 drops	Nasal	3 days
	Vidalak	Rasna, Rakta and Sweta chandan, Daruharidra, Lodhra, Gairik, Usheer, Sariva, Durva churna		Local application	3 days
04/10/23 to 10/10/23	Shiropichu	Ksheerbala taila		Local application	7 days
07/10/23 to 10/10/23	Tarpan	Mahatriphaladi ghrita			4 days
	Matra basti	Ksheerbala taila	90 ml	Anal	4 days

**Table 3: Second Visit**

Date	Therapeutic procedure	Name of drugs	Dose	Route	Duration
13/12/23 to 15/12/23	Anjana	Elaneer Kuzambhu	1-1 drop	Topical	3 days
	Nasyam	Mahatriphaladi ghrita	8-8 drops	Nasal	3 days
13/12/23 to 19/12/23	Vidalak	Rasna, Rakta and Sweta chandan, Daruharidra, Lodhra, Gairik, Usheer, Sariva, Durva churna		Local application	7 days
	Shiropichu	Ksheerbala taila		Local application	7 days
16/12/23 to 19/12/23	Tarpan	Mahatriphaladi ghrita			4 days
	Matra basti	Ksheerbala taila	90 ml	Anal	4 days

At the beginning of each therapeutical session a thorough examination of patient was carried out including the vision test and visual field test. After each session, an oral medication regime was prescribed to the patient at the time of discharge which is mentioned in table no 4. The patient was strictly advised to take balanced diet and to abstain from any kind of addiction and to avoid spicy, oily and fast food.

**Table 4: Oral medications prescribed during total 6 months**

Name of drug	Dose, Route, Frequency, Time of administration & Anupana
Dashmool kwath Medha kwath (Brahmi, Shankpushpi, Ashwagandha, Sauf, Pushkarmoola, Vacha, Ustkhuddus)	40 ml orally twice a day before meal
Amalaki rasayan 100gm Triphla churna 100 gm Saptamrit lauh 20 gm Mukta shukti bhasm 10 gm Godanti bhasm 10 gm Vatari churna 30 gm	1 tsp with honey orally twice a day before meal
Purnarnavarista	20ml mixed with equal amount of water orally twice a day after meal
Eye grit tablet (Amla extract, Carrot extract, Bhiringraj extract, Mukta shukti pishti, Moti pishti, Rajat bhasm)	1 tablet twice a day with water before meal

Giloy Amla juice

20ml mixed with equal amount of water orally twice a day before meal

Badam Rogan

Instil 2-2 drops in each nostril twice a day

**Follow up**

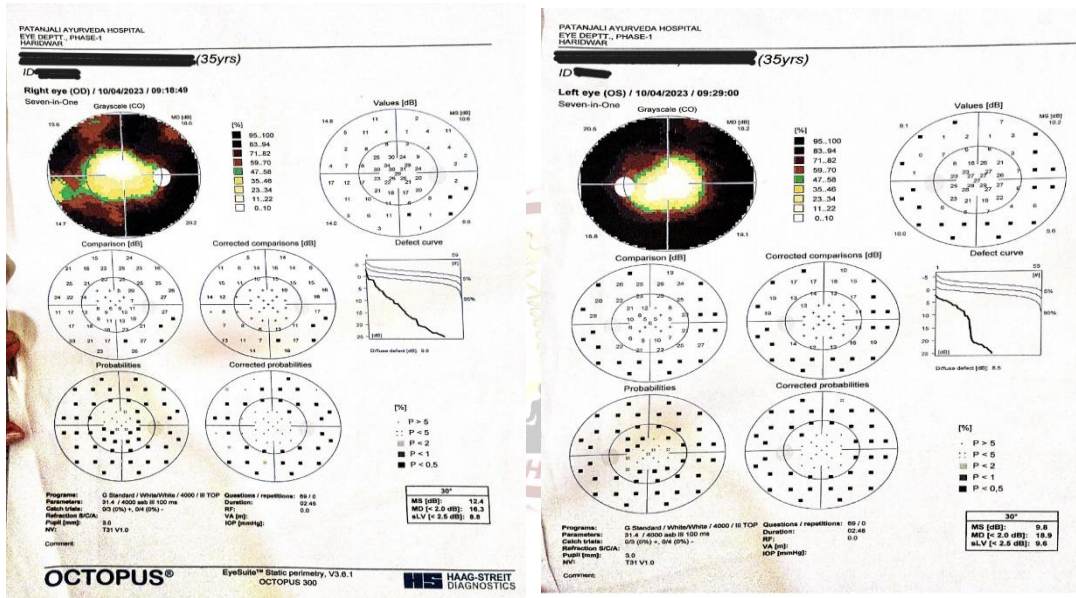
Patient visited OPD for follow up on 01/04/2024. Regular vision test and visual field testing was done and he was advised to continue the oral medications.

**Result**

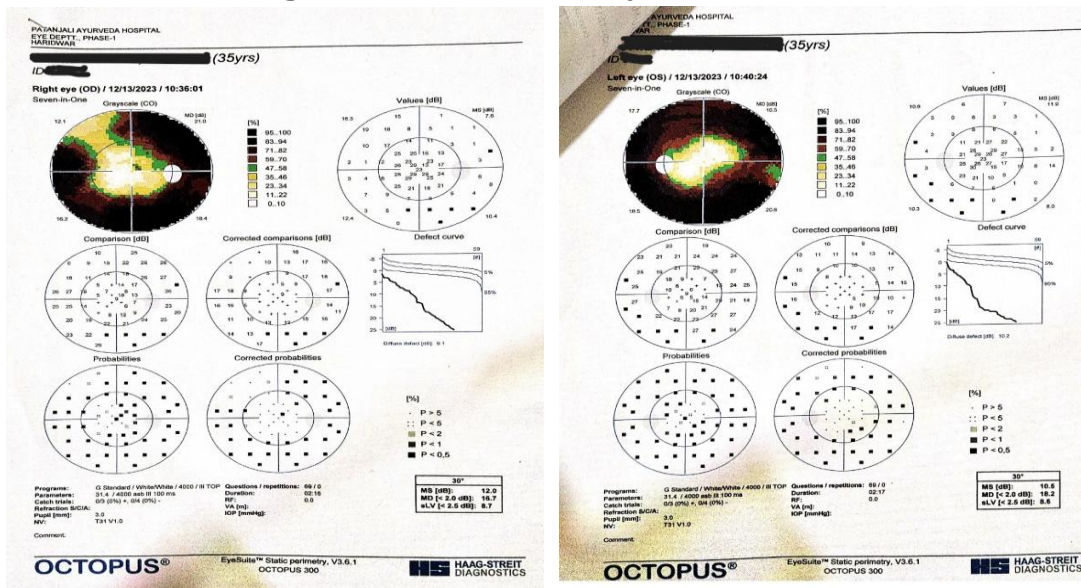
**Table 5: Results**

Date	04/10/2023	13/12/2023	01/04/2024
Visual Acuity	Right eye- 6/60P with pinhole 6/6P Left eye- 5/60 with pinhole 6/9P	Right eye-6/60P with PH 6/6 P Left eye-5/60 with PH 6/9P	Right eye- 6/60 with PH 6/6P Left eye-6/60 with PH 6/9

After the intervention, an assessment of visual field analysis was done which showed marked improvement in constricted peripheral visual field. The perimetry reports are shown in Figure 1, 2 & 3.



**Figure 1: Visual field analysis on 1<sup>st</sup> visit**



**Figure 2: Visual field analysis on 2<sup>nd</sup> visit**

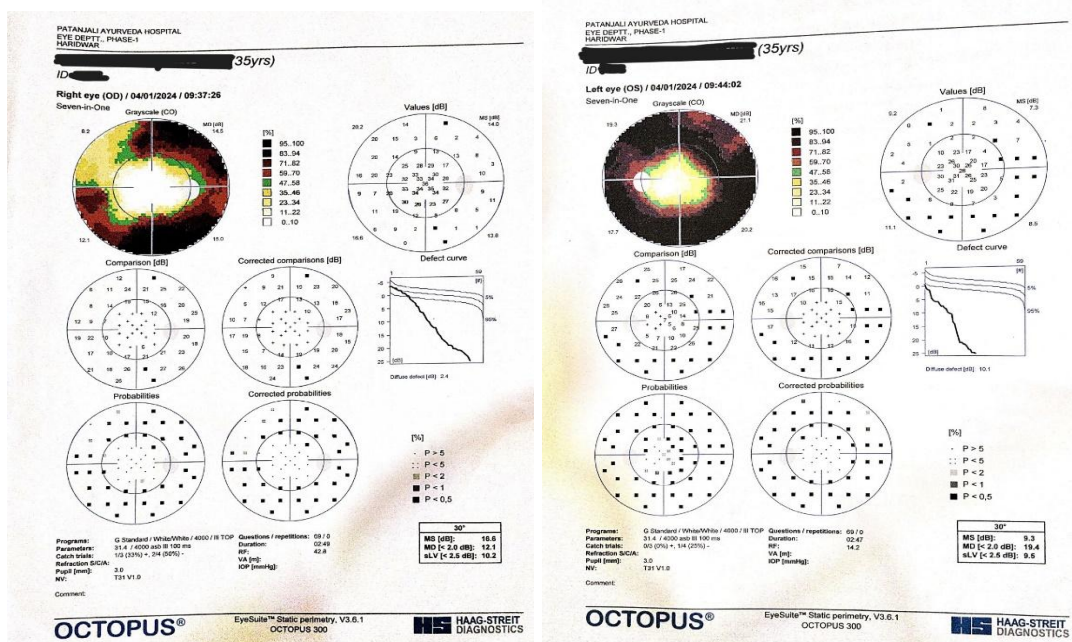


Figure 3: Visual field analysis on follow-up

**DISCUSSION**

*Nakulandhya* is caused due to vitiation of all three *Doshas*. The disease initiates due to *Pitta* provoking lifestyle hence disturbing the physiology of vision. *Vata* being a major factor in prompting proper visual impulses conduction, triggers deterioration of photoreceptors cells in the eye. *Kapha* alters the chemical reaction in eye that instigates the dark-light adaptation. This explains its *Sannipataja* pathology. According to contemporary science, no certain effective treatment is available for the same. In this particular case, the Ayurveda protocol carried out included *Nasya* with *Mahatriphaladi ghrita*. *Nasa hi shirsodwaram* i.e., nose is the gateway to brain.<sup>[5]</sup> Nasal route is easily accessible, reliable with porous endothelial membrane and highly vascularised epithelium which facilitates rapid absorption of drug from olfactory region into systemic circulation avoiding hepatic first past elimination.<sup>[6]</sup> The olfactory nerve is connected to higher centres of brain i.e., limbic system and hypothalamus which are stimulated by drug absorption hence regulating the endocrine and nervous system.<sup>[7]</sup> In RP, *Nasya* therapy improves the nerve impulse conduction and strengthens the retinal epithelium. *Anjana* with *Elaneer kuzambhu* has ingredients which have *Kapha hara*, *Chakushya* and *Tridosha shaman* property. *Vidalaka* helps in penetration of drugs into the intact skin and has better bioavailability due to more tissue contact time. It increases the vascularity due to its warm application and being prepared from *Dashmoola* has *Shothahara* property. According to *Acharya Vagbhatta*, *Tarpana* is indicated in management of *Vataj-pittaj netrarogas* and *Ratrandhya* i.e., night-blindness.<sup>[8]</sup> *Tarpana* with *Mahatriphaladi ghrita* which has *Triphala* as main

ingredient possessing *Tridoshahara*, *Chakushya* property<sup>[9]</sup> and has high Vit C, riboflavin, magnesium. Contributing to its rejuvenating action and nurturing the ocular structures. *Shiropichu* with *Ksheerbala taila* acts on *Tarpak kapha* in head thus providing nourishment to head and all the *Indriyas* (sense organs) residing in it. *Matra basti* with *Ksheerbala taila* administered per rectum, the drug is readily absorbed through rectum mucosa and accumulating the imbalanced *Doshas* and instigating their excretion from body per anal. *Basti chikitsa* helps in regulating the vitiated *Tridoshas* thus maintain the eye health.<sup>[10]</sup> It is indicated in *Doshaprakopa Avastha* and *Sannipata*.<sup>[11]</sup> *Ksheerbala taila* has *Balya* property, promotes nerve strengthening and regeneration. *Shaman chikitsa*- Various oral drug formulation like *Triphala*, *Amalaki rasayan*, *Giloy amla juice*, *Shatavari* having *Rasayan* property were prescribed to the patient. *Saptamrita lauha* has *Chakushya* and *Drishti prasadak* action<sup>[12]</sup> along with *Dashmool* and *Medha kwath* possessing *Tridoshara*, *Medhya* and *Balya* action. *Vatari churna* helps in pacifying *Vata dosha* thus disrupting the *Tridosha* pathology. *Punarnavarishtta* has antioxidant and *Chakushya* helping in arresting the degenerative process occurring in RP.<sup>[13]</sup> *Badam rogan* being rich source of Vit E, riboflavin, magnesium, zinc etc can be conveniently used *Netra rogas*. *Mukta shukti bhasma* and *Godanti bhasma* works on *Jathra agni* thus pacifying the *Pitta dosha* and improving metabolic activity. As *Acharya Vagbhatta* mentioned that all the necessary attempts must be made to protect eyes (vision) throughout the life because night and day are

same for a blind individual and all the worldly items and wealth are futile.<sup>[14]</sup>

## CONCLUSION

RP is inherited, eye disease causing severe vision loss and eventually turning the patient blind due to degeneration of rod photoreceptor cells in retina. In modern science, the treatment modalities available in RP cases are gene therapy, stem cell therapy, retinal transplant. These all treatment come with an accessible amount of risks and contra-indications thus cannot be appreciated in all type of RP patients. On the other hand, Ayurveda provides plenty of therapeutic procedures and medications which if used rigorously can help in ceasing the degenerative changes and visual impairment thus retaining the vision of the patient.

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