



## A CASE STUDY ON RETINITIS PIGMENTOSA WHICH RESPONDED TO AYURVEDIC MANAGEMENT

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**ABSTRACT** Retinitis pigmentosa (RP) is an inherited retinal dystrophy leading to progressive loss of vision and blindness. According to some studies the prevalence of RP is reported to be 1/3,000 to 1/5,000. The case presented with sudden painless diminution of vision with watering, slow adjustment from dark to light environments since 2 months. He was an apparently diagnosed case of RP. The treatment was scheduled for 24 weeks of 4 sittings and follow up period of 12 weeks. Outcome was measured based on changes in visual acuity and symptomatic relief. There was improvement in vision from 6/60p and 6/36p to 6/18 vision & 6/18p in right eye and left eye respectively. The progressive nature and lack of a definitive cure needs a cost effective, safe treatment protocol to preserve the existing vision, avoid further progression and restore vision.

**KEYWORDS :** Retinitis Pigmentosa, Rod cone dystrophy, Case study

### 1. INTRODUCTION

Retinitis pigmentosa (RP) is a genetic disorder of the eyes which is generally inherited from a person's parents. Onset of which is often in childhood and gradual but some are not affected until adulthood. It is estimated to affect 1 in 4,000 people. Mutations in one of more than 50 genes are involved. The mechanism involves the progressive loss of rod photoreceptor cells in the back of the eye. This is generally followed by loss of cone photoreceptor cells. Symptoms include trouble seeing at night and decreased peripheral vision (side vision). As peripheral vision worsens, people may experience "tunnel vision". Complete blindness is uncommon. Central visual acuity loss may occur at any age as a result of cystoid macular edema or photoreceptor loss. Reduced color vision may also be found. Diagnosis is by an examination of the retina finding dark pigment deposits. Fundus examination reveals bone spicule pigment deposits, attenuated retinal vessels, retinal atrophy and waxy optic nerve pallor. Other supportive testing may include optical coherence tomography (OCT) scan of the retina, electroretinography (ERG) and Molecular genetic testing, visual field testing, or genetic testing. There is no cure for retinitis pigmentosa. Treatment is primarily aimed at slowing progression of the disease. Vitamin A palmitate and lutein-DHA may be provided as protecting antioxidants and optical aids are recommended. Rehabilitation for reading and moving can be proposed in end-stage patients.<sup>1</sup>

### 2. Patient Information

A 24-year old male patient who is a student reported to our OPD on November 2017 with chief complaints that included sudden painless diminution of vision in both eye associated with watering, slow adjustment from dark to light environments since 2 months. He is on spectacles since 10 years for myopia. He was primarily diagnosed as suffering from Retinitis Pigmentosa in Ambedkar Hospital, New Delhi and was treated for the same. He was prescribed with lubricating drops and advised change in spectacles. The outcome was not clinically significant with patient found no relief in symptoms and the vision was deteriorating continuously. Medical history showed no other systemic illnesses. Past history was insignificant. His family ocular history for any genetic or hereditary diseases was unremarkable.

### 3. Clinical findings

#### Eye examination:

A. Visual acuity Evaluation:  
Distant vision (Without glass)  
Right eye- 6/60P  
Left Eye- 6/36P  
Near Vision (Without glass)  
Right eye- N9  
Left eye- N9

- Color vision tested via Ishihara plates: showed no color vision defect

#### B. External Examination: Normal, both sides

#### C. Anterior & Posterior Segment Evaluation through SLE and Fundoscope:

Mean IOP (Schiotz Tonometry) during treatment: OD: 11mmHg, OS :

12 mmHg

- Pupils: 3mm regular, round, reacting- Both Eyes
- Confrontational Visual Fields: No changes

**Table 1: Slit Lamp Examination & Dilated Fundus Examination (before & after treatment no**

OD	STRUCTURE	OS
Clear	External Lids/ Lashes	clear
pink, smooth	Palpebral Conjunctiva	pink, smooth
Clear	Bulbar Conjunctiva	clear
Clear	Cornea	clear
Normal	Anterior Chamber	normal
(+) transillumination	Iris	(+) transillumination
Clear	Lens	clear
soft	Digital Intraocular Pressures	soft
0.3:1 with distinct borders	C/D Ratio (Retina)	0.3:1 with distinct borders
sluggish reflex	Macula, Fovea	sluggish reflex
(+) mild attenuation	Retinal vessels	(+) mild attenuation
Bony spicules (mainly at mid periphery), mild hypopigmentation of retinal pigment epithelium	Periphery and posterior chamber	Bony spicules (mainly at mid periphery), mild hypopigmentation of retinal pigment epithelium

### 4. Timelines

Total Study Period : 36 weeks

Treatment Period : 2 weeks treatment with an interval of 4 weeks (4 sittings)

Follow-up Period : 12 weeks

### 5. Diagnostic assessments

**Table 2: Visual Acuity Evaluation (Before and After Treatment)**

	BT (without t glass)	1st sitting	2nd sitting	3rd sitting	4th sitting	AT (without glass)	FU (without glass)
Distant vision							
Right eye	6/60P	6/24P	6/24P	6/24	6/18P	6/18P	6/18P
Left eye	6/36P	6/24	6/24	6/18P	6/18	6/18	6/18
Near vision							
Right eye	N9	N9	N9	N9	N6P	N6P	N6P

Left eye	N9	N9	N9	N9	N6P	N6P	N6P
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## 6. Therapeutic Interventions

**Table 3: Procedural management**

Sl.No.	Procedure	Medicine	Duration (each sitting)	1st sitting	2nd sitting	3rd sitting	4th sitting
1	Nasya	Ksheerabala taila	7 days	+	+	+	+
2	Tarpana	Triphala Ghrita	5 days	+	+	+	+
3	Putapaka	Snehanaputapaka	3 days	+	+	+	+
4	Seka	Triphala, yashti	7 days	+	+	+	+
5	Bidalaka	Triphala, yashti	7 days	+	+	+	+
6	Anjana	Vinayaka anjana (anubhuta yoga)	7 days	+	+	+	+

The treatment was scheduled for 24 weeks with overall 4 sittings. Before each sitting nitya (daily) virechana (mild purgation) was done for 1 week with Avipattikara churna (5gms night time) as a general purificatory measure. Under each sitting treatment was done for 2 weeks with an interval of 4 weeks in between for a total 4 times and follow up period of 12 weeks without treatment was schedule. The rationale behind duration is based on dosha dushya vivechana (considering dosha, dushya) & yukti (reasoning).

### Pharmacological Intervention

1. Triphala churna (powder), 5gms with madhu (honey) & (ghrita) ghee after food for 24 weeks

2. Tab. Ashwagandha, 1 tablet after food (night) with milk for 24 weeks

### 1. Follow-up and Outcomes

Outcome was measured based on changes in visual acuity and symptomatic relief in signs and symptoms. There was improvement in vision from 6/60P and 6/36P to 6/18 vision & 6/18P in right eye & left eye respectively. We have neither detected any negative effects nor any adverse and unanticipated events concerning the progression of disease as this is the beginning stage

## 7. DISCUSSION

Based on the fact that the patient was suffering from early stages of RP, he was diagnosed based on available ayurvedic literatures keeping in view the lakshanas (signs and symptoms, clinical findings) exhibited and eventually the treatment strategies were established. It is also known that in the early stages of RP, rods are more severely affected than cones. As the rods die, people experience night blindness and a progressive loss of the visual field. The loss of rods eventually leads to a breakdown and loss of cones. In the late stages of RP, as cones die, people tend to lose more of the visual field, developing tunnel vision. 2 This suggests that this patient is in early stages of RP. By taking into these relevant points along with the presenting complaints, and the major findings related to RP which have been established based on fundal characteristics in the retina, an appropriate Ayurvedic diagnoses has been done which included features of multiple eye diseases.

1. Shleshma vidagdha drishti: It is an eye condition in which all the objects appear diminished in color (shukla). When the dushita kapha enter the Tritiya patala, there manifests naktandhya (night blindness). In this disease, patient is able to visualize due to alpakapha (subsidence of kaphadosha) in morning hours. 3 In the present case it can be affirmed that the patient is in early stages of Kapha vidagdha drishti which may be due to alpa dosha (minimal dosha) which is involved here as he is having only blurred vision and difficulty in dark adaptation but not complete loss of night vision.

2. Doshandha: It is a diseased condition in which due to sunset there is accumulation of dosha in drishti patha (visual pathway) which leads to blindness in night time. But during morning hours, the rising sun will remove the accumulated dosha and hence there will be clear vision in day time. 4 This is similar to the features presented by the patient except blurred vision and complete night blindness.

3. Siragata Vata: It is mentioned that if dustavayu gets inside the sira it manifests with following lakshanas like shophya (edema or exudation of fluids), shushyati (drying up of vessels), spandate (abnormal

vasospasms), sputa (ischemia), and also it manifest as either tanvyo (attenuated or thinned vessels) or mahatyo (thickening of vessels). 5 In this case these features can be taken as the findings which are examined by the examiner like bony spicules and attenuated retinal vessels which are observed in the fundus of the patient.

Based on the above discussions, it is imperative that there is involvement of all doshas with predominant of one dosha (kaphadosha) and so it can be considered as kashta sadhya (difficult) for treatment. The line of treatment adopted was having properties like kapha vatahara (that which mitigates kapha and vata dosha), chakshushya (nourishing to eyes), sroto shodhaka (clears srotas- micro channels), rasayana (anti-oxidants). With the available facilities and affordability of the patient an effective treatment protocol was established which are non-surgical, noninvasive, cost effective, preventive and curative & used in both anterior and posterior segment diseases. Procedures like panchakarma and chakshushya kriyakalpa's (topical eye treatments) like Nasya (nasal snuffing), Tarpana & Putapaka (medicaments kept in the eye for stipulated period), Seka (closed eye irrigation), Bidalaka (local application of medicaments), Anjana (medicine is smeared from kaneenika to apanga sandhi on the inner side of the eyelid uniformly) 6 and other necessary oral medications were administered. At the end of 36 weeks of treatment there was improvement in visual acuity from 6/60p to 6/18p which is remarkable improvement observed in RP cases along with subsidence of presenting complaints. The results which are elicited may be attributed to both procedures and interventions involved. These procedures assists in Pre - corneal and corneal drug absorption due to use of both lipid and water soluble drugs, trans- cutaneous drug absorption of applications around the lids, & the treatments which are based here are having Nano conceptualization, pressure effects, increases residual tissue contact time, better drug compliance, vasodilation, drainage of toxins from site, solid drug deliver through both conjunctival and scleral pathway in case of application of collyriums. The patient was assessed only based on visual acuity, slit lamp examination for anterior segment and funduscopy for posterior segment. Our main aim was to treat the patient symptomatically with minimal financial burden as the patient was not affordable for necessary sophisticated diagnostic tests. Hence keeping in view the dissemination of knowledge, theories and experiences this case study was framed.

## 8. CONCLUSION:

Retinitis Pigmentosa is difficult to term with a single diagnosis in Ayurveda as the pathogenesis involved here is very complex. The treatment of RP in other sciences are inconclusive even after increased technologies and generations of knowledge as there are no therapies that stops the evolution of pigmentary retinopathies or restores the vision. Hence this case study helped in contributing the available treatments of Ayurveda which needs to be still established scientifically and further researches to be done and encouraged keeping in view the benefits of the society. Hence it can be concluded by remembering the great saying in Ayurveda, "All the effort should be made by men to protect eyes throughout the life (chakshu rakshayam sarvakalam), for the man who is blind this world is useless, the day and night are same even though he has money". 7

### Learning points

1. RP may be or may not be hereditary.
2. There is no age specificity of occurrence or progression of disease.
3. RP responds to ayurvedic management.

Informed consent Obtained

## 4. REFERENCES

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