WJPMR, 2026, 12(2), 371-374

Case Report

WORLD JOURNAL OF PHARMACEUTICAL AND MEDICAL RESEARCH

www.wjpmr.com

Impact Factor: 6.842

ISSN (O): 2455-3301

ISSN (P): 3051-2557

Coden USA: WJPMBB

A CASE STUDY: AYURVEDIC MANAGEMENT OF PROLIFERATIVE DIABETIC RETINOPATHY WITH VITREOUS HEMORRHAGE

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DOI: https://doi.org/10.5281/zenodo.18438021

How to cite this Article: Dr. Sayali D. Patil*[1], Dr. Jaydeep R. Gangal[2] (2026). A CASE STUDY: AYURVEDIC MANAGEMENT OF PROLIFERATIVE DIABETIC RETINOPATHY WITH VITREOUS HEMORRHAGE. World Journal of Pharmaceutical and Medical Research, 12(2), 371–374.

Article Received on 01/01/2026 **Article Revised on 22/01/2026** **Article Published on 01/02/2026**

INTRODUCTION

Diabetic retinopathy (DR), one of the leading causes of preventable blindness among the global working-age population. In eye, Diabetic retinopathy is one of the major complications of Diabetes mellitus. Diabetic retinopathy is a chronic progressive, potentially sight threatening disease of the retinal microvasculature associated with prolonged hyperglycemia and other conditions linked to DM, are HTN, hyperlipidemia and protein urea etc. The severity of diabetic retinopathy increases as duration of disease increases. Sudden painless loss of vision is seen in many conditions like Central retinal artery occlusion, central retinal vein occlusion, retinal detachment, and massive vitreous hemorrhage (VH). Vitreous hemorrhage is a condition where leakage of blood is seen in vitreous cavity. Photocoagulation, which stops the leakage of blood and fluids into the retina, but doesn't break the root pathogenesis of DR. The use of intra-vitreal pharmacotherapies in the last decade has revolutionized the management of Diabetic Macular Edema (DME) as well as Proliferative Diabetic Retinopathy (PDR). Ayurveda plays a significant role in management of diabetic retinopathy and Ayurvedic treatment targets upon countering pathogenesis from the root level.[1,2,3]

AIM

Review the clinical presentation and evaluate the visual outcome of Proliferative diabetic retinopathy with vitreous hemorrhage.

OBJECTIVE

1. To identify and evaluate patients with Proliferative diabetic retinopathy with vitreous hemorrhage
2. To evaluate the visual outcome of Proliferative diabetic retinopathy with vitreous hemorrhage.

MATERIAL AND METHODOLOGY

1. Simple Random Single Case Study on patient with Proliferative diabetic retinopathy with vitreous hemorrhage.
2. Schiotz Tonometer for measuring Intraocular pressure.
3. Snellen Chart for measure visual acuity.
4. Slit Lamp and 90D lens for eye examination
5. Indirect ophthalmoscope with 20D lens and direct ophthalmoscope.

CASE DESCRIPTION

A 60 years old male patient visited to ophthalmology department of concerned hospital with sudden diminution of vision since 4 to 5 days having no history of trauma.

HISTORY OF PRESENT ILLNESS

As stated by patient, patient was asymptomatic 6 to 7 days back, then although wearing near glasses patient feel difficulty to read newspaper and black halos infrunt of eyes.

PAST OCULAR HISTORY

Patient had no history of any ocular trauma in past. No history of amblyopia or squint. His past surgical history is significant for cataract surgery.

K/C/O – Diabetes mellitus type 2 since 2014

M/H/O – Tab. Glycomet 500mg (Metformin) 1tab twice a day

Tab. Duopil 1/500mg (Glimepiride 1mg & Metformin 500mg) 1tab twice a day

Cap. Ecosprin AV 75mg (Aspirin & Atorvastatin) 1cap once a day.

S/H/O - Rt.Eye SICS with PCIOL under LA in 2018
Lt.Eye SICS with PCIOL under LA in 2018 Allergy - No History of any drug or food allergy till date Habit – No any ill habit
No history of head/ocular trauma.

OCULAR EXAMINATION
Normal appearing orbital structures.

INTRAOCULAR PRESSURE
Right eye 17.3mmHg and left eye 17.3mmHg.

VISUAL ACUITY

Vision	Right eye	Left eye
Unaided	3-4 feet	6/18
Pinhole	-	6/12
Near	N10	N8

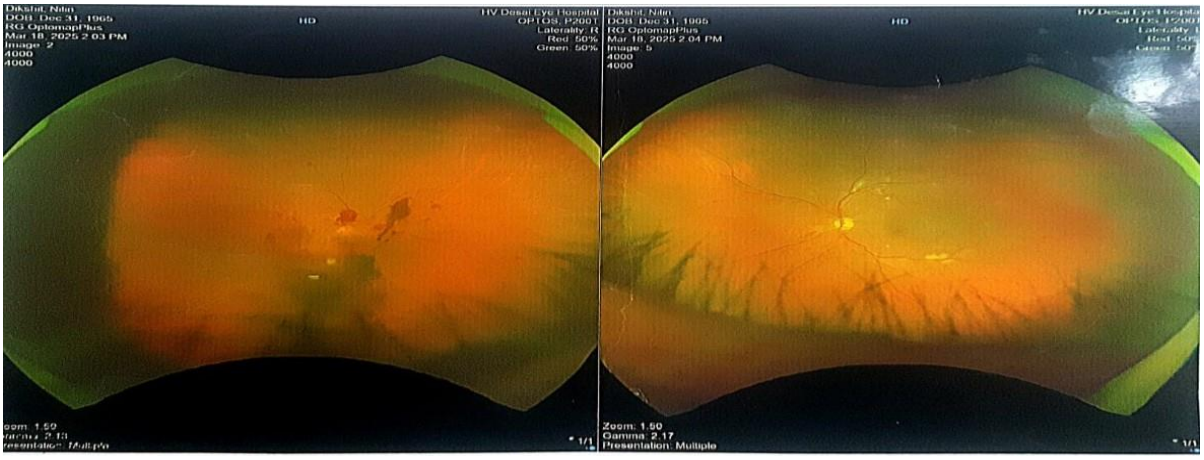
SLIT LAMP EXAMINATION

	Right eye	Left eye
Lids	NAD	NAD
Conjunctiva	NAD	NAD
Cornea	Clear and Avascular	Clear and Avascular
Pupil	Round Regular	Round Regular
Anterior chamber	Deep	Deep
Lens	Pseudophakia	Pseudophakia

FUNDUS EXAMINATION

	Right eye	Left eye
Media	Hazy	Clear
Disc	Haemorrhage	NAD
Blood vessels	Intra-retinal microaneurysms, Dot-blot haemorrhages	Dot-blot haemorrhages
Macula	Foveal reflex dull	Foveal reflex dull
Cup disc ratio	0.4	0.4
Vitreous	Haemorrhage	NAD
Peripheral retina	Exudates ++	Cotton wool spots and exudates

LABORATORY INVESTIGATION



FBS - 96 mg/dl PPBS – 238 mg/dl

DIAGNOSIS
Rt eye proliferative diabetic retinopathy with vitreous hemorrhage.

TREATMENT
1st month
1. Tab.Raktapachak vati 250mg 2 tab twice a day
2. Syp.Lodhrasav 5tsp with ½ cup of water twice a day

2nd month
1. Tab.Chandraprabha vati 2 tab twice a day
2. Syp.Lodhrasav 5tsp with ½ cup of water twice a day

3rd month
1. Tab.Chandraprabha vati 2 tab twice a day
2. Syp.Lodhrasav 5tsp with ½ cup of water twice a day
3. Tab.Saptamruta loha 250mg 2 tab twice a day
4. Once a week Jalaukavcharana setting for 3 weeks
5. Eye drop Nepafenac 1 drop twice a day

4th month
1. Tab.Chandraprabha vati 2 tab twice a day

2. Syp.Lodhrasav 5tsp with ½ cup of water twice a day

During Follow up on every month there is marked improvement in visual acuity.

RESULT

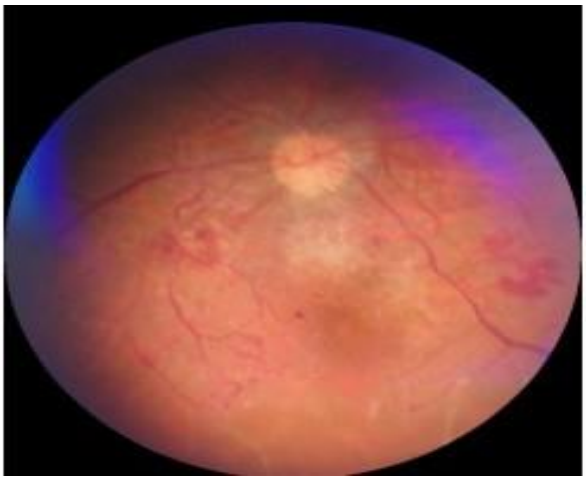
The results were evaluated after 4 months with marked improvement in visual acuity from 3-4 feet to 6/36(p) in the right eye, and from 6/18 to 6/9(p) in left eye.

VISUAL ACUITY CHANGES

	Right eye	Left eye
Distant visual acuity	6/36(p)	6/9(p)
Near visual acuity	N8	N8
Pinhole	6/24(p)	6/9

FUNDUS EXAMINATION

	Right eye	Left eye
Media	clear	Clear
Disc	NAD	NAD
Blood vessels	Intra-retinal microaneurysms, Dot-blot haemorrhages decreased	Dot-blot haemorrhages decreased
Macula	Foveal reflex dull	Foveal reflex dull
Cup disc ratio	0.4	0.4
Vitreous	No hemorrhage	NAD
Peripheral retina	Exudates decreased	Exudates



DISCUSSION

The patient presented with proliferative diabetic retinopathy with vitreous hemorrhage—an advanced microvascular complication of long-standing diabetes. Ayurvedic management aimed at correcting systemic pathology such as hyperglycemia, oxidative stress, inflammation, and impaired microcirculation. Raktapachak Vati supported blood purification and metabolic balance, Lodhrasava helped reduce post-prandial glucose spikes and retinal endothelial stress, while Chandraprabha Vati improved glycemic control, lipid balance, and microvascular protection. Saptamruta Loha strengthened ocular tissues, and Jalaukavacharana reduced local congestion, inflammation, and improved retinal circulation. Across four months, combined therapy led to clearing of vitreous hemorrhage, reduction in retinal lesions, and significant improvement in visual acuity, suggesting that multi-modal Ayurvedic treatment may positively influence both systemic and ocular outcomes in diabetic retinopathy.

PROBABLE MODE OF ACTION OF TREATMENT GIVEN

1. **Chandraprabha Vati**[4,5] -Chandraprabha Vati may help in diabetic retinopathy by lowering blood sugar, reducing oxidative stress, correcting lipid imbalance, and decreasing inflammation. Its antioxidant and Rasayana herbs strengthen retinal microcirculation, protect capillaries, and slow tissue damage. Together, these actions may delay the progression of diabetic retinopathy when used as an adjuvant therapy.
2. **Raktapachak vati**[6] - It is an Ayurvedic proprietary medicine having ingredients – Patol (Tricosanthes dioica), Sariva (Hemidesmus indicus), Patha (Cissampelos pareira), Katurohini (Picorrhiza kurroa) and Musta (Cyperus rotundus). Effects of this drug are Deepan-pachan
(improves digestive fire), Anulomaka (laxative), and Rakta Prasadak (improves the quality of blood).
3. **Lodhrasava**[7] - Lodhrasavam exhibits significant anti-diabetic potential through potent inhibition of α-

amylase and α-glucosidase, thereby reducing post-prandial hyperglycemia and subsequent glycemic stress. It also suppresses adipogenesis in 3T3-L1 cells, improving insulin sensitivity and metabolic balance in obese-diabetic conditions. This dual action aligns with Ayurvedic concepts of managing Sthula Prameha. Extrapolating these mechanisms, Lodhrasavam may benefit diabetic retinopathy patients by reducing oxidative stress, inflammatory cytokines, and retinal endothelial injury mediated by glucose fluctuations. Its medohara, kaphahara, and rasayana properties may additionally support microvascular stability, slowing the progression of retinal microangiopathy.

4. **Jalaukavcharana**[8,9] - Jalaukavacharana benefits netrarogas by removing vitiated Pitta–Rakta and delivering multiple bioactive salivary components that collectively reduce inflammation and congestion. Hirudin and calin act as potent anticoagulants by inhibiting thrombin and platelet adhesion, improving microcirculation. Destabilase and Factor Xa inhibitors prevent clot formation and dissolve fibrin, helping in clearing subconjunctival hemorrhage and stagnated blood. Anti-inflammatory agents like bdellins and eglins suppress proteolytic enzymes such as trypsin, plasmin, elastase and cathepsin-G, thereby reducing burning, redness and swelling. Hyaluronidase enhances tissue permeability for deeper diffusion of therapeutic substances, accelerating drainage of inflammatory exudates. Vasodilatory molecules such as histamine-like substances and acetylcholine increase local blood flow, while local anesthetic components reduce pain during therapy. Together, these actions relieve ocular congestion, promote raktashodhana, restore physiological circulation and effectively pacify Pitta-Rakta–dominant inflammatory netrarogas.

RESULT

After four months of Ayurvedic treatment, the patient showed significant functional and structural improvement.

- Right eye visual acuity improved from 3–4 feet to 6/36(p).
- Left eye visual acuity improved from 6/18 to 6/9(p).
- Vitreous hemorrhage cleared completely in the right eye.
- Dot-blot hemorrhages, microaneurysms, and exudates decreased in both eyes.
- Media clarity improved, and no new proliferative lesions were noted.

Overall, the therapy resulted in better retinal status and improved vision, indicating positive clinical response.

CONCLUSION

The case demonstrates that a structured Ayurvedic regimen—combining Raktapachak Vati, Lodhrasava, Chandraprabha Vati, Saptamruta Loha, and Jalaukavacharana—can support meaningful recovery in proliferative diabetic retinopathy with vitreous hemorrhage. By targeting hyperglycemia, inflammation, oxidative stress, and microvascular congestion, the treatment facilitated clearing of vitreous hemorrhage, reduction in retinal lesions, and improvement in visual acuity. This suggests that integrative Ayurvedic therapy may serve as a beneficial adjunct in managing advanced diabetic retinopathy and enhancing visual outcomes.

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