

Review Article

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“ADHIMANTHA AND GLAUCOMA: CLASSICAL DESCRIPTION, MODERN CORRELATION AND THE LIMITS OF AYURVEDIC MANAGEMENT”

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ABSTRACT

Background: Glaucoma is the leading cause of irreversible blindness worldwide. It is a group of optic neuropathies characterised by progressive loss of retinal ganglion cells and visual field, with raised intraocular pressure as the main modifiable risk factor. Sushruta describes Adhimantha, a severe eye disease with intense pain in the eye and head that can lead to blindness within days, which Ayurvedic scholars correlate with glaucoma, particularly acute angle-closure glaucoma. **Objective:** To review the classical description of Adhimantha, its correlation with types of glaucoma, the evidence base for modern glaucoma management, and the available Ayurvedic evidence, and to define the safe role of Ayurveda in glaucoma care. **Methods:** Narrative review of Sushruta Samhita and Ashtanga Hridaya, landmark glaucoma trials, and Ayurvedic clinical literature. **Results:** Adhimantha is described as a Sarvagata (whole-eye) disease, with four types according to Dosha, and the classical prognosis of blindness within a few days in untreated cases closely resembles acute angle-closure glaucoma. Chronic open-angle glaucoma, which is painless and slowly progressive, corresponds less clearly. Lowering intraocular pressure with medication, laser or surgery has been shown in randomised trials to slow glaucoma progression. Ayurvedic evidence consists of small clinical studies, case reports and an ongoing randomised add-on trial of a Rasayana formulation and Shigru eye drops. **Conclusion:** Adhimantha offers a historically important description of glaucoma-like disease. Ayurvedic treatment must not replace intraocular pressure-lowering therapy. Its possible roles are as an adjunct for neuroprotection and quality of life, which require controlled trials.

KEYWORDS: Adhimantha; glaucoma; intraocular pressure; Shalakya Tantra; angle-closure glaucoma; open-angle glaucoma; neuroprotection; integrative ophthalmology

INTRODUCTION

Glaucoma is a group of progressive optic neuropathies characterised by degeneration of retinal ganglion cells and their axons, resulting in characteristic optic disc changes and visual field loss^[1,2]. It affected an estimated 64 million people worldwide in 2013, with numbers projected to reach about 112 million by 2040^[3]. In India, an estimated 11 to 12 million people have glaucoma, most of them undiagnosed^[4]. Because vision lost to glaucoma cannot be restored, early detection and treatment are essential.

Sushruta Samhita describes Adhimantha, an eye disease with severe pain extending to the head and progressive loss of vision, among the diseases affecting the whole eye^[5]. Ayurvedic scholars have correlated Adhimantha with glaucoma, and various Ayurvedic treatments have been proposed. Because glaucoma is a blinding disease with highly effective conventional treatment, it is especially important to

define the evidence and the limits of Ayurvedic management.

METHODS

Classical sources were Sushruta Samhita Uttara Tantra 6 and the corresponding chapters of Ashtanga Hridaya Uttara Sthana^[5,6]. Modern literature included reviews, landmark randomised trials of glaucoma treatment and Ayurvedic clinical studies identified through PubMed, Google Scholar and Ayurveda journals using the terms Adhimantha, glaucoma, intraocular pressure and Ayurveda. This is a narrative review.

CLASSICAL DESCRIPTION OF ADHIMANTHA

Features

Sushruta describes Adhimantha as a disease in which the eye feels as if it is being torn out and churned (Mantha meaning churning), with severe pain spreading to half of the head^[5]. Four types are described according to the predominant Dosha:

Table 1: Types of Adhimantha and their features

Type	Main features described
Vataja	Eye feels as if being uprooted and churned; pain in half of the head; roughness
Pittaja	Burning, redness, eye feels as if on fire; yellowish discolouration
Kaphaja	Swelling, itching, heaviness, discharge, less intense pain
Raktaja	Red eye, blood-red discolouration, burning, pain on touch

Prognosis

Sushruta notes that untreated Adhimantha can destroy vision rapidly, giving periods of a few days for each type, with Raktaja and Pittaja being the most rapid^[5]. Ayurvedic texts also describe Hatadhimantha, a stage in which the eye is destroyed by unchecked Adhimantha.

Classical treatment

Classical management includes Snehana (oleation), Raktamokshana (bloodletting, including Siravedha near the forehead), Virechana (purgation), Shirovirechana (nasal purification), Tarpana, Putapaka, Anjana and Lepa, adjusted to the

predominant Dosha^[5,6]. Lalata Siravedha (venesection at the forehead) is specifically mentioned.

CORRELATION WITH TYPES OF GLAUCOMA

The clearest correlation is between Adhimantha and acute angle-closure glaucoma. Primary open-angle glaucoma, the most common type worldwide, is painless and fits poorly with the classical description. Some Ayurvedic scholars therefore correlate open-angle glaucoma with other classical entities, such as Gambhirika or certain forms of Timira, or describe it as Vataja Adhimantha in its early stages. These correlations remain interpretive.

Table 2: Correlation of glaucoma types with Adhimantha

Glaucoma type	Main features	Correlation with Adhimantha
Acute primary angle-closure glaucoma	Sudden severe eye pain, headache, nausea, red eye, blurred vision, haloes; very high IOP; vision can be lost in days	Strong: severe pain extending to the head, redness, rapid vision loss

Glaucoma type	Main features	Correlation with Adhimantha
Chronic primary angle-closure glaucoma	Often asymptomatic or intermittent symptoms; gradual damage	Partial
Primary open-angle glaucoma	Painless, slowly progressive, usually asymptomatic until late	Weak: absence of pain; correlates better with some forms of Timira or Kacha
Secondary glaucomas (e.g. neovascular, uveitic)	Often painful, red eye; underlying disease	Partial; Raktaja Adhimantha may resemble neovascular or inflammatory glaucoma

MODERN EVIDENCE-BASED MANAGEMENT

Pathophysiology

Raised intraocular pressure (IOP) is the main modifiable risk factor for glaucoma, though damage can occur at normal IOP^[1,2]. Other risk factors

include age, family history, African or Asian ancestry, myopia and thin corneas. In angle-closure glaucoma, the iris blocks the drainage angle, causing IOP to rise.

Evidence that lowering IOP works

Landmark randomised trials have established that lowering IOP slows the onset and progression of glaucoma:

Table 3: Trials showing the benefit of lowering intraocular pressure

Trial	Population	Finding
Ocular Hypertension Treatment Study ^[7]	Ocular hypertension	Topical medication reduced the five-year risk of developing glaucoma by more than half
Early Manifest Glaucoma Trial ^[8]	Early open-angle glaucoma	Treatment (laser and medication) reduced progression
United Kingdom Glaucoma Treatment Study ^[9]	Open-angle glaucoma	Latanoprost preserved visual field compared with placebo
LiGHT trial ^[10]	Open-angle glaucoma and ocular hypertension	Selective laser trabeculoplasty as first-line treatment was at least as effective as eye drops

Treatment options

- **Medications:** prostaglandin analogues, beta-blockers, carbonic anhydrase inhibitors, alpha agonists and rho kinase inhibitors.
- **Laser:** selective laser trabeculoplasty for open-angle glaucoma; laser peripheral iridotomy for angle closure.
- **Surgery:** trabeculectomy, glaucoma drainage devices and minimally invasive glaucoma surgery.
- **Acute angle closure:** an ophthalmic emergency requiring immediate IOP-lowering medication and laser iridotomy.

AYURVEDIC CLINICAL EVIDENCE

Clinical studies and case reports

A clinical study published in AYU evaluated oral Nayanamrita Lauha with Triphaladi Varti (a collyrium) in patients with Adhimantha^[11]. Case

reports have described Ayurvedic management of primary open-angle glaucoma using combinations of oral formulations, Nasya, Tarpana and other procedures^[12]. Such studies are small, rarely use standard visual field and imaging outcomes, and often include patients who continue IOP-lowering medication, making the contribution of Ayurvedic treatment unclear.

Add-on trial protocol

An exploratory open-label randomised trial is evaluating a Rasayana formulation (combining Yashada Bhasma, Saptamrita Lauha and Rasayana Churna) and Shigru Pallava (*Moringa oleifera* leaf) eye drops as an add-on to standard care in primary open-angle glaucoma^[13]. Its primary outcome is neuroprotection, measured by visual field indices and retinal nerve fibre layer thickness, with IOP as a secondary outcome. This add-on design, in which all

participants continue standard care, is the appropriate model for Ayurvedic glaucoma research. Results were not available at the time of writing.

SAFETY CONCERNS SPECIFIC TO GLAUCOMA

Delay or withdrawal of treatment

The greatest risk of Ayurvedic management in glaucoma is delay in diagnosis or withdrawal of IOP-lowering treatment. Glaucoma damage is irreversible and often silent; patients may feel well while losing vision. Patients must not be advised to stop glaucoma medication.

Acute angle closure

Acute angle closure is an emergency. Any patient with sudden severe eye pain, headache, red eye, blurred vision and haloes should be referred immediately to an ophthalmologist. Classical procedures such as Raktamokshana or Tarpana are not substitutes for emergency IOP lowering.

Procedures that may raise IOP

Head-down yoga postures raise IOP; in yoga practitioners, IOP roughly doubled during Sirsasana (headstand)^[14]. Patients with glaucoma should avoid prolonged inverted postures. Procedures involving heat or pressure around the eyes, prone positioning or prolonged head-down positions should be considered carefully. Some medicated preparations may contain steroids or substances that raise IOP; products should be reviewed.

Drug interactions and quality

Oral Rasa Shastra preparations containing metals or minerals should come from manufacturers with

quality testing for heavy metals^[15].

A SAFE MODEL OF INTEGRATED GLAUCOMA CARE

1. **Screening and referral:** Ayurvedic practitioners should refer people at risk (aged over 40, family history, high myopia, diabetes, long-term steroid use) for glaucoma screening.
2. **Shared care:** all patients with glaucoma should be under ophthalmological care, with regular IOP, visual field and optic nerve imaging.
3. **Adherence:** Ayurvedic practitioners can support adherence to eye drops, which is often poor in glaucoma.
4. **Adjunctive care:** Ayurvedic interventions, if used, should be adjuncts within research or with the ophthalmologist's knowledge.
5. **Lifestyle:** regular exercise, avoiding prolonged head-down positions, managing blood pressure and diabetes, and stress reduction.
6. **Emergencies:** clear instructions to seek immediate care for acute symptoms.

CLASSICAL PROCEDURES IN THE LIGHT OF MODERN KNOWLEDGE

Several classical treatments for Adhimantha are of historical interest but need careful consideration today:

Interestingly, classical texts recognised that Adhimantha requires prompt and vigorous treatment. This principle, that some eye diseases are emergencies, is consistent with modern practice, even though the specific treatments have changed.

Table 4: Classical procedures in the light of modern knowledge

Classical procedure	Classical rationale	Modern consideration
Lalata Siravedha (venesection at the forehead)	Removes vitiated Rakta and relieves pain	No evidence that it lowers IOP; not a substitute for emergency treatment
Virechana (purgation)	Removes Pitta	Dehydration may transiently lower IOP but is not a controlled treatment; unsafe in frail patients
Shirovirechana and Nasya	Clears Doshas from the head	Unknown effect on IOP; head-down positioning during Nasya should be brief
Tarpana	Nourishes the eye, pacifies Vata	Unknown effect on IOP; pressure on the globe from the dough wall and warmth should be considered
Anjana and Varti	Local medication	Corneal irritation; sterility; unknown effect on IOP

Classical procedure	Classical rationale	Modern consideration
Lepa on the forehead	Relieves pain	Low risk
Snehapana (internal oleation)	Pacifies Vata	Large fluid and fat loads; theoretical concern in angle closure is unstudied

RESEARCH PRIORITIES

Table 5: Research priorities

Priority	Suggested approach
Effect of Ayurvedic procedures on IOP	Short-term studies measuring IOP before, during and after Tarpana, Nasya and other procedures in healthy volunteers and patients
Neuroprotection	Add-on randomised trials with visual field progression and retinal nerve fibre layer thickness as outcomes, with all patients on standard care
Adherence	Trials of Ayurvedic counselling and lifestyle programmes to improve adherence to glaucoma drops
Quality of life	Validated quality of life and anxiety measures in patients receiving integrated care
Safety	Systematic reporting of adverse effects, including IOP spikes
Screening	Training Ayurvedic practitioners to identify and refer people at risk of glaucoma

Because visual field progression is slow, neuroprotection trials need follow-up of at least one to two years and sufficient numbers of participants; collaboration with glaucoma clinics is essential.

PATIENT EDUCATION

Patients with glaucoma who seek Ayurvedic care should understand that:

- glaucoma damage is permanent, and treatment aims to prevent further loss;
- eye drops must be used every day, even when vision feels normal;
- regular eye examinations with field tests and imaging are needed to check whether treatment is working;
- Ayurvedic treatment, if used, is an addition to, not a replacement for, glaucoma treatment;
- sudden eye pain, redness, blurred vision or haloes require immediate attention.

DISCUSSION

Sushruta's account of Adhimantha is a remarkable early description of a painful, rapidly blinding eye disease that resembles acute angle-closure glaucoma. It also shows awareness that some eye diseases cause irreversible blindness within days if not treated. The correlation with painless, chronic open-angle glaucoma is less clear, and Ayurvedic

scholars should be cautious in equating the two.

Glaucoma management is one of the best-established areas of ophthalmology, with randomised trials showing that lowering IOP preserves vision. Ayurvedic evidence is limited to small studies and case reports. The most promising and ethical research direction is neuroprotective add-on therapy, tested in trials in which all patients continue standard care, such as the protocol described above.

CONCLUSION

Adhimantha in Sushruta Samhita corresponds most closely to acute angle-closure glaucoma, while chronic open-angle glaucoma fits poorly with the classical description. Lowering intraocular pressure is the proven treatment for glaucoma, and Ayurvedic management must not replace or delay it. Ayurveda's appropriate roles are in screening referral, supporting adherence and lifestyle, and, in research settings, testing adjunctive neuroprotective therapies.

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