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Case Study of Pterygium W.S.R. to Arma in Ayurveda

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Abstract : *Pterygium is a common ocular surface disorder characterized by the abnormal growth of fibrovascular tissue from the conjunctiva onto the cornea. It is commonly associated with chronic exposure to ultraviolet radiation, dust, wind, and environmental irritants. In Ayurveda, a condition resembling pterygium can be correlated with Arma, a disease described in the classical texts of Shalakya Tantra. This article presents an illustrative case study, discusses the possible Ayurvedic correlation, and reviews principles of Ayurvedic and contemporary management.*

Keywords: Pterygium, Arma, Shalakya Tantra, Ayurveda, Netra Roga, Ophthalmology

I. INTRODUCTION

Pterygium is a degenerative and proliferative condition of the ocular surface in which triangular fibrovascular tissue grows from the bulbar conjunctiva onto the cornea. It commonly develops on the nasal side of the eye, although temporal involvement may also occur.

Patients may present with redness, irritation, foreign-body sensation, watering, and cosmetic concerns. In advanced cases, the lesion may induce astigmatism or extend toward the visual axis, resulting in visual impairment.

In Ayurveda, various diseases affecting the eyes are described under Netra Roga. Arma is one such condition described in classical Ayurvedic ophthalmology. Based on its clinical presentation, certain forms of Arma may be considered comparable to pterygium. This correlation is approximate; the two conditions should not be regarded as identical in every case.

II. AIM AND OBJECTIVES

Aim

To study the clinical presentation of pterygium with special reference to Arma in Ayurveda.

Objectives

1. To understand the clinical features and risk factors of pterygium.
2. To review the Ayurvedic concept of Arma.
3. To explore the clinical correlation between pterygium and Arma.
4. To discuss appropriate diagnostic and management principles from Ayurvedic and contemporary ophthalmological perspectives.

III. REVIEW OF LITERATURE

3.1 Modern Concept of Pterygium

Pterygium is a wing-shaped fibrovascular proliferation of conjunctival tissue extending onto the cornea. It is associated with chronic ultraviolet exposure and environmental irritation.

Etiological factors include:

- Prolonged exposure to sunlight and ultraviolet radiation.
- Chronic exposure to dust and wind.
- Outdoor occupational activities.
- Dry and hot environmental conditions.

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• Chronic ocular surface irritation. Clinical features include:
• Triangular or wing-shaped conjunctival growth, commonly nasal in location.
• Redness, irritation, foreign-body sensation, and watering.
• Dryness or discomfort.
• Induced astigmatism in some patients.
• Reduced visual acuity in advanced cases.

3.2 Ayurvedic Concept of Arma

Arma is described among the diseases of the eye in Ayurvedic classical literature, particularly in Shalakya Tantra. It involves abnormal tissue growth over the ocular surface. Classical descriptions classify Arma into varieties according to Dosha predominance and characteristic appearance. A precise diagnosis requires correlation with modern ophthalmic examination.

Ayurvedic assessment may include:
• Dosha predominance.
• Nature and appearance of the growth.
• Site and extent of the lesion.
• Associated symptoms and chronicity.
• Progression and effect on vision.

Exact classical references and descriptions should be verified from the edition of the Samhita prescribed by the relevant institution.

IV. CASE PRESENTATION

Important note: The following is a hypothetical case prepared for academic illustration. It is not a report of an actual patient.

4.1 Patient Information

• Patient initials: X.Y.
• Age: 42 years.
• Sex: Male.
• Occupation: Outdoor agricultural worker.
• OPD registration number: To be entered.
• Date of examination: To be entered.

4.2 Chief Complaints

5. Gradual development of a growth on the nasal side of the right eye for approximately eight months.
6. Intermittent redness of the affected eye.
7. Foreign-body sensation and mild irritation.
8. Occasional watering.
9. No significant pain or sudden loss of vision reported.

4.3 History of Present Illness

The patient noticed a small growth arising from the nasal conjunctiva of the right eye approximately eight months before presentation. The growth gradually increased in size and was accompanied by intermittent redness and irritation. The patient had a history of prolonged outdoor activity with frequent exposure to sunlight, dust, and wind. There was no reported history of ocular trauma or previous ocular surgery; these details should be confirmed in an actual case.

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4.4 Past History

- Previous ocular disease: To be assessed.
- History of ocular surgery: To be assessed.
- History of trauma: To be assessed.
- Systemic illness: To be assessed.
- Drug history: To be assessed.
- Family history: To be assessed.

4.5 Personal History

- Occupation: Outdoor work.
- Dietary habits and sleep pattern: To be documented.
- Exposure to sunlight and dust: Present in this illustrative case.
- Use of protective eyewear: Inadequate in this illustrative case.

V. CLINICAL EXAMINATION

5.1 General Examination

General condition, vital signs when clinically indicated, and relevant systemic examination should be documented.

5.2 Ophthalmic Examination

Examination	Illustrative finding
Visual acuity, right eye	6/9
Visual acuity, left eye	6/6
External examination	Growth on the nasal side of the right eye
Conjunctival examination	Localized fibrovascular tissue
Corneal examination	Tissue extending onto the peripheral cornea
Pupillary reaction	To be documented
Intraocular pressure	To be measured and documented
Slit-lamp examination	To be performed
Refraction	To be assessed

A slit-lamp examination is important for documenting the size, location, vascularity, and corneal extension of the lesion. Visual acuity and refraction should also be assessed. The lesion's dimensions and distance from the visual axis should be recorded when appropriate.

5.3 Provisional Diagnosis

Right-eye pterygium, clinically correlated with Arma in Ayurveda.

The diagnosis must be confirmed by an ophthalmologist. Other conjunctival and corneal lesions should be considered if the appearance is atypical.

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VI. AYURVEDIC CORRELATION: PTERYGIUM W.S.R. TO ARMA

Pterygium may be discussed in relation to Arma because both involve abnormal tissue growth over the ocular surface. The comparison is based on similarities in clinical appearance rather than proof of complete equivalence.

Clinical parameter	Modern perspective	Ayurvedic perspective
Disease concept	Fibrovascular conjunctival growth extending onto the cornea	Abnormal ocular surface growth described under Arma
Site	Usually nasal conjunctiva extending onto the cornea	Assessed according to the classical description of Arma
Appearance	Triangular or wing-shaped growth	Interpreted according to the relevant Arma classification
Symptoms	Redness, irritation, watering, foreign-body sensation	Assessed through Ayurvedic clinical examination
Assessment	Slit-lamp examination, visual acuity, refraction	Dosha assessment alongside appropriate modern investigations
Management	Observation, lubrication, protection, surgery when indicated	Individualized management under qualified Shalakya Tantra supervision

VII. AYURVEDIC SAMPRAPTI (PATHOGENESIS)

The pathogenesis of Arma should be explained according to the relevant classical reference. In an academic discussion, the possible Ayurvedic interpretation of a pterygium-like lesion may include assessment of Dosha involvement, local tissue changes, and progression of the growth. A definitive Samprapti Ghataka analysis should not be assigned without consulting the specific classical description and examining the patient.

• Dosha: To be determined according to clinical findings and the selected classical reference.
• Dushya: To be discussed with reference to involved ocular tissues in the Ayurvedic framework.
• Srotas: To be specified only when supported by the relevant classical interpretation.
• Adhisthana: Ocular surface; precise Ayurvedic anatomical correlation should be explained.
• Rogamarga: To be assigned according to the accepted classical interpretation.
• Vyadhi Avastha: To be documented according to duration, progression, and clinical severity. This approach avoids presenting speculative Ayurvedic classifications as established facts.
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VIII. DIFFERENTIAL DIAGNOSIS

10. Pinguecula: A yellowish conjunctival degeneration that does not ordinarily extend onto the cornea.
11. Pseudopterygium: Conjunctival adhesion to the cornea, often associated with previous inflammation or injury.
12. Conjunctival neoplasia: May resemble pterygium, particularly when the lesion is atypical or progressive.
13. Other ocular surface lesions: Considered according to the location and appearance of the growth. Atypical, rapidly enlarging, unusually vascular, or irregular lesions require specialist assessment.

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IX. MANAGEMENT

9.1 Contemporary Ophthalmological Management

Management depends on symptoms, lesion size, rate of progression, corneal involvement, and visual effects. Conservative management:

• Avoid excessive ultraviolet exposure.
• Wear UV-protective sunglasses and a broad-brimmed hat outdoors.
• Reduce exposure to dust and wind.
• Use suitable lubricating eye drops when recommended by an eye-care professional.
• Attend regular ophthalmic follow-up.

Lubricants may reduce irritation but do not remove the pterygium. Surgical management:

Surgery may be considered when the lesion:

• Progresses toward the visual axis.
• Causes significant astigmatism or visual impairment.
• Produces persistent symptoms despite conservative management.
• Causes substantial ocular surface problems.
• Requires excision because the diagnosis is uncertain.

Excision with conjunctival autografting is a commonly used surgical approach. The ophthalmologist determines the appropriate technique after examination.

9.2 Ayurvedic Management

Ayurvedic management of pterygium at involves both internal and external treatments aimed at balancing the doshas, reducing inflammation, and preventing the progression or recurrence of the growth. Treatments include:

- Lekhana Karma (Scraping Therapy): This involves the surgical removal of the pterygium using specific Ayurvedic techniques and substances, such as Bijapura (Citrus medica) Bhavitha Saindhava Lavana (rock salt), known for its scraping and reducing properties.
- Anjana (Collyrium): Ayurvedic collyrium preparations, such as Guduchyadi Rasakriya Anjana, are applied to the eyes to reduce inflammation and control the growth. These preparations often contain herbs with anti-inflammatory and healing properties, like Guduchi (Tinospora cordifolia), which helps in reducing pterygium size and preventing recurrence.
- Seka (Eye Wash): This involves washing the eyes with herbal decoctions to cleanse and soothe the ocular surface. Ingredients such as Triphala (a combination of three fruits: Amalaki, Bibhitaki, and Haritaki) are commonly used for their antioxidant and anti-inflammatory effects.
- Nasya (Nasal Administration of Medications): Administering medicated oils or powders through the nasal route helps in managing eye diseases by promoting drainage and reducing inflammation. This practice is rooted in the belief that the nasal passages are closely connected to the eyes and brain.
- Internal Medications: Ayurvedic practitioners often prescribe internal medications to address the underlying dosha imbalance.

X. FOLLOW-UP AND ASSESSMENT

Follow-up should document symptoms, visual acuity, lesion dimensions, corneal extension, and treatment-related adverse effects. The following table can be used for actual patient documentation.

Parameter	Baseline	Follow-up 1	Follow-up 2
Date	To be recorded	To be recorded	To be recorded
Visual acuity	To be recorded	To be recorded	To be recorded
Lesion size	To be recorded	To be recorded	To be recorded

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Corneal extension	To be recorded	To be recorded	To be recorded
Redness	To be recorded	To be recorded	To be recorded
Irritation	To be recorded	To be recorded	To be recorded
Watering	To be recorded	To be recorded	To be recorded
Treatment provided	To be recorded	To be recorded	To be recorded
Adverse effects	To be recorded	To be recorded	To be recorded

Treatment outcomes should be reported only after actual follow-up examinations. Improvement in symptoms should not automatically be interpreted as regression of the lesion.

XI. DISCUSSION

Pterygium is a common ocular surface disorder associated with chronic ultraviolet exposure and environmental factors. Its clinical presentation may resemble certain forms of Arma described in Ayurvedic ophthalmology.

The comparison provides an opportunity to study ocular surface disease through both contemporary ophthalmology and the classical Ayurvedic framework of Shalakya Tantra.

However, clinical diagnosis and management require appropriate ophthalmic examination. The Ayurvedic classification should be based on verified classical references rather than symptom similarity alone.

Conservative measures may relieve irritation and reduce exposure to contributing environmental factors, but they do not reliably reverse established fibrovascular growth. Progressive lesions, significant astigmatism, visual-axis involvement, or diagnostic uncertainty require ophthalmological evaluation.

A well-designed case report should distinguish documented clinical findings from theoretical interpretations. If Ayurvedic treatment is investigated, objective measurements, an appropriate comparison method where feasible, adverse-event monitoring, and adequate follow-up are necessary to evaluate outcomes reliably.

XII. CONCLUSION

Pterygium is a fibrovascular growth of the conjunctiva that extends onto the cornea. In Ayurveda, it may be studied in relation to Arma because of similarities in the appearance of certain ocular surface growths. This
correlation is useful for academic discussion but should not be interpreted as complete equivalence between the modern diagnosis and the Ayurvedic disease classification.

Accurate diagnosis, regular monitoring, ultraviolet protection, appropriate symptomatic care, and timely surgical referral when indicated remain essential components of management. Ayurvedic assessment may contribute to an integrative academic discussion, provided treatment is individualized, evidence-informed, and does not compromise ocular safety.

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