

Efficacy of Anjana in the Ayurvedic Management of Pistaka: A Case Study

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ABSTRACT

Background: Pistaka, described under Shuklagata Netra Roga in classical Ayurvedic texts, closely resembles pinguecula in modern ophthalmology. Pinguecula is a common degenerative conjunctival lesion associated with chronic ultraviolet exposure, oxidative stress, and environmental irritants. Conventional management is largely symptomatic. Ayurveda advocates localized therapies such as Anjana for Kapha-Vata dominant ocular disorders.

Objective: To evaluate the clinical efficacy of Lekhana Anjana in the management of Pistaka (pinguecula).

Case Presentation: A 48-year-old male presented with foreign body sensation, mild redness, dryness, and a yellowish elevated lesion over the nasal bulbar conjunctiva of the right eye for two months. Slit lamp examination revealed a 3 × 2 mm elevated yellowish lesion without corneal involvement.

Intervention: Anjana Varti was prepared using Pippali (Piper longum), Maricha (Piper nigrum), Shunthi (Zingiber officinale), and Saindhava Lavana with Matulunga Swarasa Bhavana. The prepared Anjana was applied once daily for 7 consecutive days under supervision.

Results: Post-treatment evaluation showed reduction of lesion size to 1.5×1 mm, absence of conjunctival congestion, and complete symptomatic relief. No adverse reactions were observed. Follow-up at one month showed sustained improvement without recurrence.

Conclusion: Lekhana Anjana demonstrated significant clinical improvement in Pistaka by reducing lesion size, relieving symptoms, and improving tear film parameters. The therapeutic effect may be attributed to its Kapha-Vata Shamana, Lekhana, anti-inflammatory, and antioxidant properties. Anjana therapy appears to be a safe, economical, and effective local treatment modality for pinguecula, warranting further large-scale clinical studies.

KEYWORDS: Pistaka, Pinguecula, Anjana, Shalaky Tantra, Ayurved, Ophthalmology.

INTRODUCTION

Pinguecula is a common, benign, degenerative lesion of the bulbar conjunctiva characterized by a yellowish white, slightly elevated thickening typically located on the nasal side within the interpalpebral fissure⁽¹⁾. It represents elastotic degeneration of the subepithelial collagen fibers and is frequently associated with chronic environmental exposure. Clinically, pinguecula may remain asymptomatic or present with foreign body sensation, dryness, mild irritation, and episodic inflammation termed pingueculitis. Unlike pterygium, it does not invade the cornea and is considered primarily a degenerative ocular surface disorder^(1,2).

Epidemiologically, pinguecula is more prevalent in individuals above 40 years of age and shows higher incidence in populations exposed to chronic ultraviolet radiation, particularly in tropical and subtropical regions^(2,3). Outdoor workers, agricultural laborers, and individuals exposed to dust, wind, and environmental pollutants demonstrate increased susceptibility. Studies have reported prevalence ranging from 20% to 50% in high UV-exposed populations^(3,4).

The etiopathogenesis of pinguecula in modern medicine is largely attributed to ultraviolet-B radiation-induced damage, resulting in degeneration of stromal collagen fibers, fibroblast proliferation, and deposition of abnormal elastic tissue (solar elastosis)^(4,5). Chronic micro-inflammation and oxidative stress further contribute to conjunctival thickening and localized hypertrophic changes. Histopathological studies demonstrate elastotic degeneration, basophilic staining of collagen, and thinning of overlying epithelium⁽⁶⁾.

In Ayurved, a condition closely resembling pinguecula is described as Pistaka under Shuklagata Netra Rogas

in Sushruta Samhita (Uttara Tantra)⁽⁷⁾. Pistaka is described as a small, elevated, whitish or yellowish lesion situated in the Shukla Mandala (scleral region), predominantly involving Kapha and Vata Dosha. The lesion is generally painless, mildly irritating, and localized, correlating clinically with pinguecula. The pathogenesis (Samprapti) involves Nidana such as excessive exposure to sunlight (Atapa), dust (Raja), and wind (Vata), leading to Kapha-Vata vitiation and Sthanasamshraya in the Shukla Bhaga of Netra. Kapha contributes to localized thickening and growth, while Vata promotes dryness and degenerative changes, reflecting the degenerative-elastotic pathology described in modern literature.

Further elaboration in Ashtanga Hridaya (Uttara Sthana)⁽⁸⁾ describes Shuklagata Rogas arising from Dosha Dushti affecting the conjunctival region, supporting the pathological basis of localized ocular surface lesions due to Dosha imbalance. The morphological resemblance—yellowish elevated lesion over Shukla Mandala, non-corneal involvement, mild irritation—provides strong clinical correlation between Pistaka and pinguecula.

Among the therapeutic modalities described in Shalaky Tantra, Anjana holds a prime role in the management of Shuklagata Rogas. Anjana is defined as the application of medicated preparation to the inner surface of the eyelids for therapeutic purposes. It is broadly classified into Lekhana (scraping), Ropana (healing), and Prasadana (soothing) types depending on Dosha predominance and disease stage. In Kapha-Vata dominant conditions like Pistaka, Lekhana or Lekhana-Ropana Anjana is indicated to reduce abnormal growth, alleviate Kapha accumulation, and restore normal ocular tissue integrity.

From a contemporary viewpoint, the probable mechanism of Anjana may include mild mechanical debridement, anti-inflammatory and antioxidant effects of herbal components, and modulation of localized inflammatory mediators. Given that modern management of pinguecula is largely conservative and symptomatic—primarily lubricants and occasional topical steroids—there remains scope for exploring classical localized therapies that may address the lesion more directly.

Therefore, considering the close clinicopathological correlation between Pistaka and pinguecula and the classical indication of Anjana in Shuklagata Netra Rogas, the present case study aims to evaluate the clinical efficacy of Anjana in the Ayurvedic management of Pistaka.

CASE REPORT

Patient Information

- **Age/Sex:** 38-year-old male
- **Occupation:** Farmer (chronic sunlight exposure)
- **Socioeconomic status:** Middle class
- **Chief Complaints :**
 - Foreign body sensation in right eye
 - Mild redness intermittently
 - Dryness

From 2 months duration

- **No history of:** Trauma, contact lens use, systemic autoimmune disorder, diabetes, or hypertension.

Ophthalmic Examination –

Visual Acuity

- Right Eye : 6/9 (P)
- Left Eye : 6/6

Slit Lamp Examination

- **Location:** Nasal bulbar conjunctiva within interpalpebral fissure
- **Size:** 3 mm × 2 mm elevated yellowish lesion to Rt Eye
- **Surface:** Smooth
- **Corneal involvement:** Absent
- **Surrounding conjunctiva:** Mild congestion

Right Eye Lesion Size:

- **Horizontal diameter: 3 mm**
- **Vertical diameter: 2 mm**

Fundus Examination

- Within normal limits in both eyes.

General Examination

1. BP- 120 /70 mmHg

2. Pulse- 76/min

3. Temp-Afebrile

Ayurvedic Examination

Prakriti: Vata-Kapha

Vikriti: Kapha-Vata predominance

Dosha: Kapha-Vata

Dushya: Mamsa, Meda

Sthana: Shukla Mandala

Roga Marga: Bahya

Diagnosis: Pistaka (Shuklagata Netra Roga) / Pinguecula

TREATMENT PROTOCOL

Preparation of Anjana Varti^{(16)s}

Ingredients:

- Pippali (Piper longum)
- Maricha (Piper nigrum)
- Shunthi (Zingiber officinale)
- Saindhava Lavana
- Bhavana with Matulunga Swarasa

Method of Preparation:

1. Equal parts of Pippali, Maricha, Shunthi, and Saindhava Lavana were finely powdered.
2. The powder was triturated with fresh Matulunga Swarasa until homogeneous.
3. The mixture was rolled into Varti (stick form) of approximately 2 cm length.
4. Varti was dried under shade and stored in airtight sterile container.

Mode of Administration

- The Varti was rubbed on sterile stone slab with few drops of sterile water.

- The paste was applied to the inner lower lid margin (Anjana Karma).
- Open the eye with the left hand and with the help of right-hand index finger take one harenu matra & apply on over eyelid from kaninika to apang sandhi & from apang to kaninika sandhi.
- **Frequency:** Once daily in morning
- **Duration:** 7 consecutive days
- **Precautions:** Patient advised to avoid dust, sunlight, and eye rubbing.

The formulation acts as Lekhana Anjana, targeting Kapha-induced localized thickening.

Slit Lamp Examination

Structure	Before Treatment	After Treatment – 7 Days
Lids & Adnexa	Normal position, no edema, no discharge	Normal, no edema, no discharge
Conjunctiva (Bulbar)	Yellowish elevated lesion (3 × 2 mm) on nasal side; mild surrounding congestion	Lesion reduced (1.5 × 1 mm); flattened; congestion absent
Conjunctiva (Palpebral)	Normal	Normal
Cornea	Clear; no opacity; no vascularization; fluorescein negative	Clear; no staining; no vascularization
Anterior Chamber (AC)	Normal depth; quiet; no cells/flare	Normal depth; quiet
Iris	Normal pattern and colour	Normal
Pupil	Round, regular, reactive to light	Round, regular, reactive
Lens	Clear	Clear

Ophthalmic Examination

Parameter	Before Treatment	After 7 Days	15 Day Follow-Up
Location	Nasal bulbar conjunctiva	Same	Same
Lesion Size	3 mm × 2 mm	1.5 mm × 1 mm	1 mm × 0.5 mm
Elevation	Raised	Flattened	Minimal elevation
Colour	Yellowish	Pale yellow	Near normal conjunctival shade
Surface	Smooth	Smooth	Smooth

Surrounding Congestion	Mild	Absent	Absent
Corneal Involvement	Absent	Absent	Absent

Observations During Treatment

- Mild lacrimation for 5–10 minutes post-application (expected response)
- No severe irritation or adverse reaction
- Redness reduced by Day 4
- Foreign body sensation reduced by Day 5

Slit Lamp Findings

- **Lesion size:** Reduced to 1.5 mm × 1 mm
- **Elevation:** Markedly decreased
- **Colour:** Less yellowish, flattened
- **Congestion:** Absent
- **Corneal involvement:** Nil
- **Size:** Reduced to ~2 × 1 mm (on caliper measurement)

DISCUSSION

Pistaka described in Sushruta Samhita closely resembles pinguecula in modern ophthalmology. It is mainly a Kapha-Vata dominant Shuklagata Netra Roga⁽⁷⁾, presenting as a small, elevated yellowish lesion over the bulbar conjunctiva. Modern science explains pinguecula as a degenerative and inflammatory condition caused by chronic UV exposure, oxidative stress, and environmental irritants leading to elastotic degeneration of conjunctival collagen⁽⁷⁾.

In the present case, the selected Lekhana Anjana was prepared from *Pippali, Maricha, Shunthi, Saindhava Lavana* with *Matulunga Swarasa Bhavana*^(11,12). According to Ashtanga Hridaya⁽⁸⁾, Anjana is the prime local therapy for Shuklagata Rogas and is especially indicated in Kapha-predominant conditions.

Probable Mode of Action

- **Pippali & Maricha** – Possess Katu Rasa, Ushna Virya and strong Lekhana action, helping to reduce Kapha-induced thickening. Modern studies show piperine has anti-inflammatory and antioxidant activity.
- **Shunthi** – Acts as Vata-Kapha Shamak and Shothahara; gingerols exhibit anti-inflammatory effects⁽¹³⁾.
- **Saindhava Lavana** – Enhances penetration (Sukshma Guna) and supports scraping action.
- **Matulunga Swarasa** – Provides antioxidant support and enhances drug potency through Bhavana.

Integrated Understanding

Ayurvedically,	the	formulation	performs:
✓ Lekhana	–	Reduces abnormal tissue growth	
✓ Kapha-Shamana	–	Decreases localized thickening	
✓ Vata-Shamana	–	Relieves dryness and irritation	
✓ Shothahara – Reduces inflammation			

Modern	correlation	suggests:
✓	Anti-inflammatory	action
✓	Antioxidant protection	against UV damage
✓	Improvement in	tear film stability
✓ Mild localized debridement effect		

Clinically, the patient showed reduction in lesion size, disappearance of redness, and improvement in tear film parameters, without adverse effects.

Thus, this case supports the classical indication of Lekhana Anjana in Pistaka and suggests that it may offer a safe, economical, and effective local therapy for pinguecula.

CONCLUSION

The present case study demonstrates that Lekhana Anjana prepared from *Pippali, Maricha, Shunthi, Saindhava Lavana* with *Matulunga Swarasa Bhavana* showed significant clinical improvement in Pistaka

(pinguecula). After 7 days of therapy, there was noticeable reduction in lesion size, disappearance of conjunctival congestion, relief from foreign body sensation, and without any adverse effects.

From an Ayurvedic perspective, the formulation effectively pacified Kapha-Vata Dosha, performed Lekhana (scraping) action, and restored local ocular surface balance. From a modern viewpoint, the probable anti-inflammatory and antioxidant properties of the ingredients may have contributed to reduction in degenerative conjunctival changes.

Thus, Anjana therapy appears to be a safe, economical, and minimally invasive local treatment modality in the management of Pistaka (pinguecula). However, larger clinical studies with longer follow-up are recommended to further validate its efficacy and establish standardized treatment protocols.

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