

An Ayurvedic Approach to Xanthelasma Palpebrarum: A Non-Surgical Cosmetic Alternative—A Case Report

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ABSTRACT:

Ayurveda considers the eyes to be the most important among all sense organs, contributing significantly to vision and facial aesthetics. Disorders involving the eyelids therefore result in notable cosmetic and psychological concerns. Xanthelasma palpebrarum, a benign lipid deposition disorder presenting as yellowish plaques over the eyelids poses a major cosmetic concern

Modern management of xanthelasma includes surgical excision, laser ablation, electrocautery, chemical cauterization with trichloroacetic acid, and cryotherapy. Although effective, these procedures have their own limitations and complications, such as scarring, hypopigmentation or hyperpigmentation, eyelid deformity, delayed wound healing, infection, recurrence, and high cost, especially when treating lesions in cosmetically sensitive periocular areas.

Based on Ayurvedic assessment, the condition was correlated with Bisa Varthma.

This paper presents a special case of xanthelasma managed through Ayurvedic principles, emphasizing local Pratisarana of Kshara Taila as a minimally invasive approach along with internal medications to correct the underlying Dosha imbalance.

This case highlights that Ayurvedic management using Kshara Taila offers a safe, cost-effective, and cosmetically acceptable alternative, avoiding the complications often associated with modern surgical procedures.

KEY WORDS: Xanthelasma Palpebrarum, Cosmetic Concern, Kshara taila, Non surgical management.

1. INTRODUCTION:

"Xanthelasma" originates from ancient Greece and combines 'xanthos,' meaning yellow, "Elesma," meaning plate. Palpebrarum is a Latin term indicating proximity to or association with the eyelid.

Xanthelasma palpebrarum is primarily characterized by soft lipid-rich deposits, especially cholesterol, manifesting as semisolid, yellowish plaques⁽¹⁾.

Xanthelasma palpebrarum, a benign lipid deposition disorder poses a major cosmetic concern. Xanthomas are accumulations of cholesterol-rich material found primarily in the skin, tendons, and subcutaneous tissue, but they can occur in various locations throughout the body. Approximately 50% of individuals who develop xanthelasma have either a primary or secondary lipid disorder⁽²⁾.

Primary lipid disorders include: Type II a and II b phenotype hyperlipidemias, Type IV phenotype hyperlipidemia, Low levels of high-density lipoprotein (HDL)

Secondary lipid disorders include: Primary biliary cholangitis (PBC) characterized by the buildup of elevated levels of lipoprotein X, a carrier of substantial cholesterol in the bloodstream, Acquired hyperlipoproteinemia resulting from systemic illnesses such as diabetes, hypothyroidism, and nephrotic syndrome, Treatment with retinoids and estrogens, Sarcoidosis⁽³⁾.

Xanthelasma characterized by yellowish deposits rich in cholesterol that typically develop on the inner portions of the eyelids. These deposits result from the accumulation of lipids within macrophages.

The primary mechanism is the compression of capillaries during each blinking cycle, mediated by the orbicularis oculi muscle. With each blinking cycle, the capillaries are squeezed by the surrounding muscle fibers. The endothelial lining tends to get weaker with age, leading to the exudation of plasma in the subcutaneous space of the eyelids.

The cholesterol and lipid components are cleared out by the lymphatic system. When the lipid content exceeds the macrophage's ability to regulate lipid balance, it leads to the formation of lipid droplets, resulting in the transformation of the macrophage into a foam cell⁽⁴⁾. Inflammation is believed to play a significant role in this process, as foam cells can develop in response to chronic inflammation associated with conditions such as gastric xanthoma, gastric cancer, and various metabolic, infectious and autoimmune disease.⁽⁴⁾

Modern management of xanthelasma includes surgical excision, laser ablation, electrocautery, chemical cauterization with trichloroacetic acid, and cryotherapy. Although effective, these procedures have their own limitations and complications.

In Ayurveda, this condition can be co related to Bisa Varthma which is one among 21 Varthma gata rogas⁽⁵⁾ and a conglomeration of all Tridoshas, situated outside the Varthma⁽⁶⁾.

2. METHODOLOGY:

Case presentation: A thirty seven year old female patient bearing OPDNO -371681, attended out patient department in the month of April 2025 presented with complaints of whitish yellow lesion over both eyelids since 3 weeks. Patient was known case of Hypothyroidism since 10 years (on medication – TFN 34 1-0-1 After food, Kanchanara Guggulu 2-0-2 Before food

Family history: Nothing relevant.

Personal History: Appetite: good, Bowel: regular, Anya:nil, Addiction: Nil, sleep: disturbed

Asta vidha pareeksha:

Nadi	Kapha	Shabdha	Prakrutha
Mala	once/day	Sparsha	Anushnasheetha
Mootra	4-6 times a day	Drik	Prakrutha
Jihva	Alipta	Akruthi	Madhyama

Dasha vidha pareeksha:

Prakruthi	Vata, Kapha	Sathwa	Prakrutha
Vikruthi	Rasa, mamsa, medha	Sathmya	Sarva rasa sathmya
Saara	Madhyama	Vaya	Madhyama
Samhanana	Madhyama	Aharashakthi	Madhyama
Pramana	Madhyama	Vyayamashakthi	Madhyama

3. CLINICAL FINDINGS:

General examination:

Built	Moderate	Oedema	Absent
Nourishment	Well nourished	Cyanosis	Absent
Pallor	Absent	Respiratory rate	21cpm
Icterus	Absent	Weight	84kgs
Clubbing	Absent	Height	5.4 ft
Lymphadenopathy	Absent	Nail	Normal
Temperature	Afebrile	Blood pressure	130/90 mm of hg

4. LOCAL EXAMINATION:

STRUCTURE	EXAMINATION	RIGHT EYE	LEFT EYE
EYELIDS	POSITION	Upper lid covers 1/6 th of the cornea Lower lid touches the limbus	Upper lid covers 1/6 th of the cornea Lower lid touches the limbus
	MOVEMENT	Normal	Normal
	LID MARGIN	Normal	Normal
	EYELASHES	Normal, no matted	Normal, no matted
	SKIN OF LID	Whitish yellow plaques present	Whitish yellow plaques present

- **INSPECTION:** Whitish-yellow plaque-like lesion present over the upper eyelid
- **Size:** 0.1 cm– 1cm (left) and 0.1 – 0.5cm (right)
- **Shape:** Irregular in shape
- **Margins:** well-defined. Skin over the lesion smooth, non-scaly.

PALAPTION: Firm in consistency, non tender, non indurated and non fluctuant, no rise in temperature. No signs of inflammation, burning sensation, no regional lymphadenopathy

- Extraocular movements: Normal

Visual acuity	WITHOUT SECTACLES		
	BOTH EYE	RIGHT EYE	LEFT EYE
Distant Vision	6/6	6/9	6/9(P)
Pin Hole	-	6/6(P)	6/9
Near Vision	N6	N6	N6

INVESTIGATIONS: (21/6/2025) shows low Vitamin D – 10.6 ng/mL and raised values of LDL - 125mg/DL , Triglycerides- 348 mg/DL

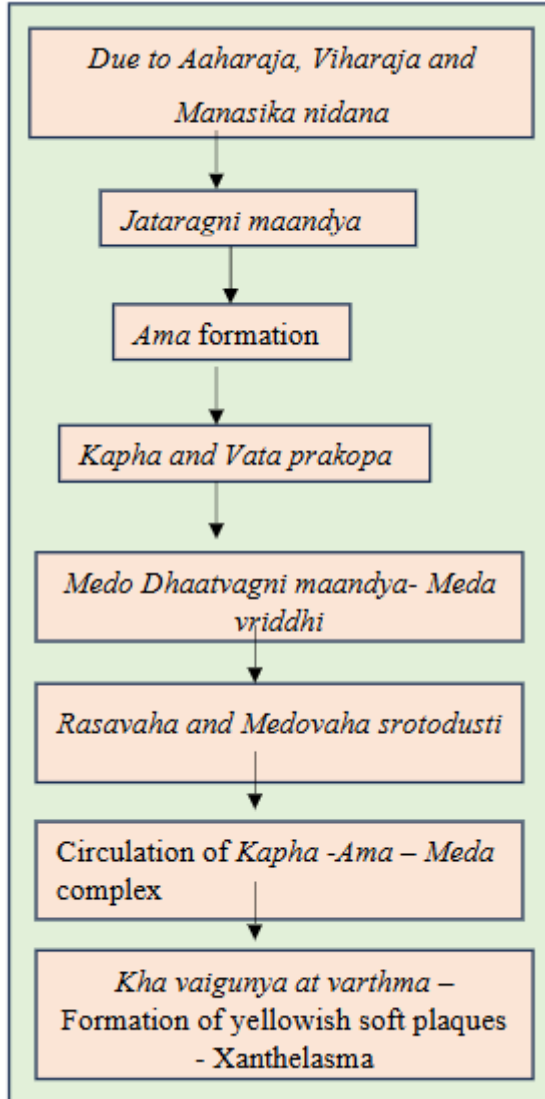
ROGA PARIKSHA:

AAHARAJA NIDANA: Madhura, guru, sheetha(cold drinks, frozen foods) abhishyanda aaharas (yogurt). These foods increases blood glucose which increases insulin further stimulates lipogenesis cause low HDL, high LDL, and triglycerids thereby leading to Kapha prakopa

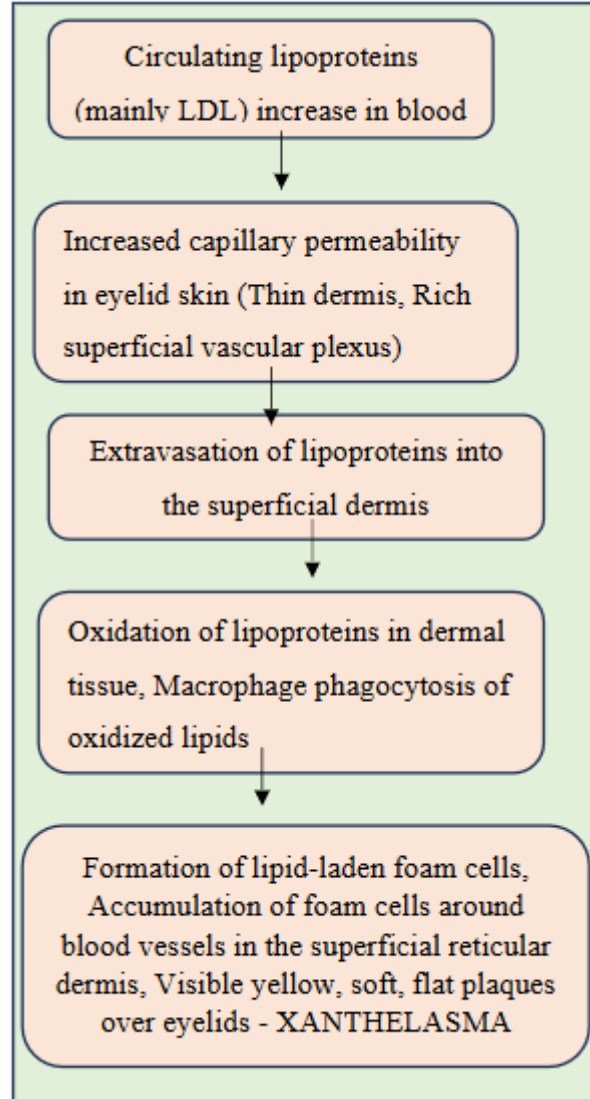
MANASIKA NIDANA: Shoka, Chintha. Increased stress levels can trigger cortisol which alters lipid metabolism and cause low HDL, high LDL, and triglycerids leading to Kapha prakopa

VIHARAJA NIDANA: Sleep was disturbed, Avyayama. Increased Cortisol and Decreased Melatonin causes systemic low grade inflammation leading to Vata and Kapha prakopa.

SAMPRAPTHI:



PATHOGENESIS:



Dosha	Kapha Pradhana , Vata
Dushya	Rasa, Medha
Agni	Jataragni and Dhatvagni Maandhya
Srotas	Rasavaha, Medhavaha
Sroto Dusti	Sangha
Udhhbhava Sthana	Amashaya
Vyaktha Sthana	Varthma
Sanchara Sthana	Urdhwajatrugata Sira
Adhistana	Varthma
Rogamarga	Bahya
Sadhyaasadyata	Kruchra Sadhya

VYADHI VINISHCHAYA:

- Bisa Varthma
- Xanthelasma

TREATMENT GIVEN:

- Kshara taila for external application with precautionary measures two times a day for 90 days

PRECAUTIONARY MEASURES: Preparation of Area: Clean with sterile water / Triphalā kvātha

- Remove oil, sweat, cosmetics
- Ensure dry surface before application
- Protection of Surrounding Tissue: Apply Ghr̥ta / petroleum jelly around lesion
- Use cotton / gauze barrier

ORALLY: Arogyavardhini Vati 1-0-1 a/f given for 60 days

5. RESULTS:**AFTER TREATMENT:**

- **INSPECTION:** Minimal residual whitish-yellow plaque-like lesion present over the upper eyelid
- **Shape:** Irregular in shape
- **Margins:** well-defined. Skin over the lesion is flat

**GRADING:**

- Grade 1: Lesion on the upper lid only
- Grade 2: Lesion along the upper lid + medial canthus area
- Grade 3: Lesion on the medial aspect of upper and lower lids
- Grade 4: Diffuse lesions involving medial and lateral aspects of upper and lower eyelids.

6. DISCUSSION:

Xanthelasma palpebrarum, a benign lipid deposition disorder presenting as yellowish plaques over the eyelids poses a major cosmetic concern. Modern line of management of Xanthelasma includes:

- **Surgical Excision**^(7,8), which causes: Scar formation, eyelid deformity, ectropion or lid retraction, incomplete closure of eyelid
- **Laser Therapy**^(10,11) (CO₂ laser, ErYAG laser) causes Pigmentary changes, Prolonged erythema.

- **Cryotherapy**⁽⁹⁾ which causes Eyelid edema, scarring.
- **Radiofrequency Ablation and Electrocautery**⁽¹²⁾ causes scarring, burns.

These treatment have got their own limitation. In Ayurveda this case can be managed through application of Kshara Taila⁽¹³⁾. Having Lekhana and Shodhana property does chemical degradation of lipid deposits, mild cauterizing action leading to lesion shrinkage, anti inflammatory and antimicrobial effects, improves local circulation. Ingredients of Kshara Taila and their action is enlisted below.

INGREDIENT	KARMA	ROLE
Bala Mulaka Kshara / Apamarga Kshara (Plant alkali)	Lekhana, Chedana, Bhedana – Kapha–Medohara, Srotoshodhana.	Destroys lipid-laden tissue chemically and reduces recurrence
Lavana Pancaka (Saindhava, Sauvarcala, Vida, Audbhida, Samudra)	Sūkṣhma, Vishyandi, Kapha vilayana.	Facilitates deeper action of Kshara on Meda deposits.
Sigru (Moringa oleifera)	Lekhana, Kapha, Medohara, Śothahara.	Reduces thickness and inflammation around plaques.
Rasanjana (Berberis extract)	Lekhana, Sothahara, Tvacya	Acts locally on skin discoloration and plaque regression.
Satapuṣpa (Anethum sowa / Dill)	Vata-Kapha hara, Sukṣhma marga anugami	Supports uniform spreading of drug in lesion
Devadaru (Cedrus deodara)	Lekhana , Kleda soṣaṇa, Kapha-Medohara,	Dries excessive lipid content and reduces greasiness.
Vaca (Acorus calamus)	Tikṣṇa, Lekhana, Srotoshodhaka	Breaks compact plaques and improves drug penetration
Kuṣṭha (Saussurea lappa)	Kapha-Medohara, Tvacya, Lekhana	Acts on skin and subcutaneous tissue.

Mahaushadha (Sunthi / Dry ginger)	Agni dipana, Ama pacana , Kapha-Vata hara	Prevents further Meda accumulation
Bhadra / Trivrt Kalka	Rechana , Kapha-Meda sodhana	Assists removal of morbid Meda.
Gomutra	Kshara svabhava , Kapha-Medohara , Srotoshodhaka	Potentiates alkaline and lekhana effect
Kampillaka	Lekhana , Kaphaghna , Tvacya	Breaks lipid plaques and improves cosmetic outcome
Tila Taila (Sesame oil – base)	Sukshma, Vyavayi , Vata samana , Yogavahi	Carries Kshara deep into tissue and protects from excessive dryness.
Madhu (Honey)	Lekhana, Ruksha, Kapha-Medohara, Samyogavahi	Enhances scraping action and healing.

7. CONCLUSION:

The application of Kshara Taila in this case of xanthelasma produced a noticeable reduction in the lesion with satisfactory cosmetic improvement. The intervention appears to facilitate gradual dissolution of lipid accumulations, while simultaneously supporting healthy tissue repair. Compared to conventional procedures, this approach offers a less invasive option with minimal risk of scarring or pigmentary changes when performed carefully. However, further well designed clinical studies with larger sample sizes with longer follow up are warranted to validate these findings and establish standardized treatment protocol

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