

Case Report



Ayurvedic management of Unilateral Vernal Keratoconjunctivitis:

A case report

[1*Sreekala Nelliakattu Parameswaran](#), [2Amala Varghese](#), [3Narayanan Nelliakkattu](#),

[4Sreekanth Nelliakattu Parameswaran](#), [5Sumesh Soman](#), [6Krishnendu Sukumaran](#)

ABSTRACT:

Background: Vernal keratoconjunctivitis (VKC) is a chronic allergic ocular disease of childhood, especially in hot and dry climates. In *Ayurveda*, VKC is discussed in relation to *Kaphaja Abhishyanda*, a disorder characterized by the aggravation of *Kapha* and *Pitta Dosha* resulting in inflammation, congestion, and excessive ocular secretion. **Case:** A 13-year-old girl presented with unilateral VKC (left eye) with recurrent symptoms despite prior topical corticosteroid use. Baseline findings included conjunctival congestion and superficial corneal vascularization; left-eye visual acuity (LE VA) was LogMAR 1.30. **Interventions/Outcomes:** A multimodal *Ayurvedic* regimen was delivered in three inpatient courses over 15 months, consisting of internal formulations, topical eye drops, and ophthalmic procedures. Symptoms of redness, itching, and photophobia improved; corneal vascularization regressed; LE VA LogMAR 1.30→0.47. The patient remained steroid-free at 6-month follow-up. No adverse events were recorded. **Conclusion:** This case signifies that *Ayurvedic* interventions can address VKC symptoms along with minimizing corticosteroid dependency. Further clinical trials are necessary to establish *Ayurvedic* treatments as standard therapy for allergic conjunctivitis.

KEYWORDS: *Abhishyanda*, Vernal Keratoconjunctivitis, *Kriyakalpa*, Spring catarrh, Case report

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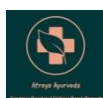
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Corresponding Author Email:

dramalavarghese@gmail.com

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1. INTRODUCTION

Vernal keratoconjunctivitis (VKC) is an external atopic eye disease that peaks in summer and spring but may occur year-round; [1] it shows a male predominance (2.2:1) with nearly half of cases in children aged 5–10 years. [2] If untreated, VKC can lead to keratoconus, corneal ulcers, corneal neovascularization, and scarring, [3] while steroid-based symptomatic therapy risks cataract and glaucoma. [4] Core manifestations include ocular hyperemia, intense itching, foreign-body sensation, photophobia, lacrimation, and pain due to corneal involvement or shield ulcers. [5] Although type-1 hypersensitivity with IgE and Th2 responses is implicated, ~50% of patients lack allergic sensitization. [6] In *Ayurveda*, VKC correlates with *Kaphaja Abhishyanda* (*Kapha–Pitta* vitiation); childhood and *Vasanta Ritu* (spring season) are *Kapha*-predominant and favor exacerbations. [7] This report presents a steroid-sparing, multimodal *Ayurvedic* approach—*Kriyakalpa* (ocular therapy), *Nasya* (Nasal Installation), and *Jaloukavacharana* (Leech Therapy)—for unilateral pediatric VKC.

2. CASE PRESENTATION:

Patient information & history.

A 13-year-old girl residing in Bengaluru presented with a four-year history of left-eye (LE) itching, redness, excessive tearing, photophobia, and intermittent blurring of vision, accompanied by light-sensitive throbbing headache. Symptoms began in 2019 as mild, untreated episodes of LE itching and redness and became more frequent and intense, particularly during hot, dry weather. In June 2022, she was diagnosed

elsewhere with chronic conjunctivitis and received loteprednol etabonate 0.5% in short courses (3–4 courses/year, tapered), with temporary relief and recurrent symptoms after cessation. Through early 2023, episodes recurred approximately every two weeks, with persistent tearing, photophobia, and foreign-body sensation. In July 2023, she attended the Ayurveda outpatient department with progressive visual complaints, severe ocular discomfort, and photophobia in the LE.

Environmental, seasonal and behavioural context.

The patient lived in an urban area with traffic-related dust and air pollution and frequently spent time outdoors (school sports/playground), with additional classroom chalk-dust exposure. Symptoms worsened in summer and on hot, dry days and partially improved during cooler, less dusty periods. She and her household were non-smokers with no regular second-hand smoke or biomass fuel exposure. Caregivers reported eye rubbing during symptomatic flares, and there were no household pets.

Atopic and medical history. The family history was notable for paternal dust allergy. The patient denied asthma, allergic rhinitis, eczema/atopic dermatitis, systemic illnesses, prior ocular trauma, and contact lens use. Prior non-Ayurvedic ophthalmic therapy included loteprednol; use of antihistamine/mast-cell stabilizer drops or lubricants was not documented in available records. No steroid-related adverse events were recorded

Clinical Examination

The patient had no systemic illnesses on examination. Her vital parameters were Blood Pressure of 120/80 mmHg and a body temperature of 97.4°F. IgE serum levels are (36.20UI/ml). The Differential Leucocyte Count showed Neutrophils (58%) Lymphocytes (40%), Eosinophil (2%) Basophils (0%), and Monocyte (0%). A comprehensive ophthalmic evaluation revealed normal findings in the right eye (RE) and corneal neovascularization, corneal opacity and subconjunctival congestion in palpebral and bulbar conjunctiva with continuous watery discharge in LE. Visual acuity assessment demonstrated an unaided distant visual acuity (DVA) LogMAR 0 in the RE and LogMAR 1.30 in the LE. Best Corrected Visual Acuity (BCVA) and pinhole examination showed no improvement in the LE.

Ayurvedic Clinical Assessment

Dasavidha Pareeksha (tenfold Ayurvedic examination), revealed the patient was *Vata-Kapha Prakriti* (body constitution), *Pitta-Kapha Vikriti* (pathological

involvement). Predominant *Doshic* (bodily humor) involvement was *Rakta* (blood) and *Mamsa Dhathu* (muscular tissue). *Kaphaja Abhishyanda* (Vernal Keratoconjunctivitis), an ocular condition described in *Ayurveda* with symptoms of excessive secretions, itching, redness, and heaviness of the eyes. *Kapha*-related disorders are more prevalent in *Vasanta Ritu* and childhood, explains the patient's seasonal exacerbation of symptoms. Chronicity and progressive symptoms like *Akshi Raga* (congestion), *Kandu* (itching), *Sroto-Muhuhu* (excessive discharge), and *Shopha* (conjunctival swelling in eye suggests *Kapha* and *Pitta Dosh*a involvement. Based on which *Ayurvedic* treatment protocol *Deepana* (metabolic stimulation), *Amapachana* (detoxification), *Rakta Shodhana* (blood purification), and *Virechana* (purgation) were planned.

Timeline of Events

The progression of symptoms and treatment interventions documented in Table 1:

Table 1: consolidated dates, stay, dosing and clinical measurements

Date	OP/IP	Internal medicine (Dose/Route/Timing/Anupana)	External medicine (Dose/Session details)	Clinical measurements
22-07-2023	OP	Baseline intervention: <i>Guduchyadi kashayam</i> /15 mL PO BD (warm water); <i>Patolakaturohinyadi kashayam</i> /15 mL PO BD (warm water); <i>Vilwadi gulika</i> /1 tab PO BD;	<i>Netramrutam</i> 1 drop (FN)	VA (LE) LogMAR 1.30; IOP 13 mmHg; severe congestion, itching, redness, photophobia, watering, superficial vascularization
15-10-2023 → 28-10-2023	IP	baseline; + <i>Virechanam</i> : <i>Nimbamruthadi eranḍatailam</i> /15 mL (hot water)	<i>Netramrutam</i> 1 drop (FN); <i>Nasyam (Anu tailam)</i> 2 drops (FN); <i>Netraseka (kashyam)</i> 50 mL (AN); <i>Jaloukavacharana</i> 1 leech (AN)	VA (LE) LogMAR 1.17; IOP 14 mmHg; congestion/redness persisted; watering/itching reduced

10-04-2024 → 18-04-2024	IP	baseline; + <i>Virechanam</i> : <i>Nimbamruthadi eranḍatailam</i> /15 mL (hot water)	same- <i>(Nasya/Netraseka</i> <i>/Jaloukavacharana; Netramrutam)</i>	VA (LE) LogMAR 1.07; IOP 15 mmHg; photophobia/watering/itching reduced
06-10-2024 → 12-10-2024	IP	baseline; →+ <i>Nimbamruthadi</i> <i>eranḍatailam</i> ; + <i>Avipathi</i> <i>chooram</i> /5 g (hot water)	same- <i>(Nasya/Netraseka</i> <i>/Jaloukavacharana; Netramrutam)</i>	VA (LE) LogMAR 0.47; IOP 14 mmHg; redness persisted; other symptoms reduced
13-03-2025	OP	—	—	VA (LE) LogMAR 0.47; IOP 16 mmHg; “no remission”

Diagnostic Assessment

VKC in the LE was diagnosed based on age, symptom pattern (itching, tearing, photophobia), and slit-lamp findings (conjunctival congestion, superficial corneal vascularization, corneal haze/opacity) with reduced visual acuity; severity was documented using the [8] Bonini VKC severity scale—baseline Grade 3 (severe)→Grade 0 after the third visit, and LE visual

acuity changed from LogMAR 1.30→0.47. Given prior loteprednol exposure, IOP was measured and monitored. Baseline (BT): RE 19 mmHg; LE 13 mmHg (method: [Goldmann/non-contact]). Follow-up (AT): IOP was checked at subsequent visits and found to be within normal limits. No steroid-induced ocular hypertension/glaucoma was recorded in the notes reviewed. Differential diagnosis is given in Table 2.

Table 2: with conditions, primary reasons and opposing diagnosis

Condition	Primary reason(s) for consideration	Findings opposing the diagnosis
Atopic keratoconjunctivitis (AKC)	Chronic allergic conjunctivitis phenotype; unilateral symptoms prompted consideration.	Age 13 (AKC typically later teens/adulthood); unilateral presentation; no periocular eczema or blepharitis.
Seasonal/Perennial allergic conjunctivitis (SAC/PAC)	Allergic symptoms and seasonality overlap with VKC.	Corneal involvement present (documented neovascularization and staining), atypical for uncomplicated SAC/PAC.
Herpetic keratopathy	Classically unilateral; can mimic allergic symptoms.	No history suggestive of HSV in available records.

Treatment plan and rationale

Treatment designed to address acute inflammation and underlying *Doshic* imbalance. With *KaphaPitta* predominance, the primary therapeutic goals were: *Amapachana* and *Deepana* to eliminate accumulated

inflammatory metabolites. Followed by *Sroto-Shodhana* (clearing of obstructed channels) to restore tear film stability *Rakta Shodhana* to reduce congestion and improve circulation. Then *Virechana*, to regulate *Pitta*

and *Kapha*. *Kriyakalpa* provides ocular detoxification and rejuvenation.

The patient underwent three inpatient treatment courses with internal medications, external and ophthalmic therapies, over 15 months. The oral medications included *Guduchyadi Kashayam*, *Patolakaturohinyadi Kashayam*, *Vilwadi Gulika*, and *Avipathi Choornam* possess anti-inflammatory, immunomodulatory, and detoxifying properties. The

external therapies included *Netraseka* (ophthalmic wash), *Aschyotana* (eye drop installation), *Jaloukavacharana*, and *Nasyam*.

Treatments

Formulations with documented anti-inflammatory, immunomodulatory, and detoxifying properties were selected. Internal medicines and external therapies are in Table 3 and 4.

Table 3: Internal medications on three visits

Courses of treatment	Medication/Batch	Dose/Duration(Days)
1 st course	<i>Guduchyadi Kashayam</i> /Freshly prepared	40 ml/10
	<i>Patolakaturohinyadi Kashayam</i> /Freshly prepared	40 ml/10
	<i>Vilwadi Gulika</i> /VWXS-4	1 tablet/10
	<i>Nimbamruthadi erandatailam</i>	15ml/1
2 nd course	<i>Guduchyadi Kashayam</i> /Freshly prepared	40 ml/10
	<i>Patolakaturohinyadi Kashayam</i> /Freshly prepared	40 ml/10
	<i>Vilwadi Gulika</i> /VWXS-4(A)	1 tablet/10
	<i>Nimbamruthadi erandatailam</i>	15ml/1
3 rd course	<i>Guduchyadi Kashayam</i> /Freshly prepared	40 ml/10
	<i>Patolakaturohinyadi Kashayam</i> /Freshly prepared	40 ml/10
	<i>Vilwadi Gulika</i> /VWXS-6	1 tablet/10
	<i>Avipathi Choornam</i> /CHAVYS-3	1 teaspoon/5

Table 4: External Therapies on three visits

Courses of treatments	Treatment	Batch/Dose/Frequency/Technique	Duration (Days)
1st course	<i>Netraseka</i>	Fresh decoction 50 mL; poured from ~2 angula at kaneenika sandhi; collected at apanga sandhi; ×7 reps; AM	12
	<i>Nasyam</i>	Anu tailam (ANXS-3) 2 drops, both nostrils; AM	5
	<i>Jaloukavacharana</i>	Active freshwater leech; bite left upper eyelid; blood draw 35 min; honey smear + bandage	1
	<i>Aschyotana</i>	Netramritam (NUXS-10) 2 drops at kaneenika sandhi (~2 angula); AM	12

2nd course	<i>Netraseka</i>	Fresh decoction 50 mL; ~2 <i>angula</i> at <i>kaneenika</i> ; collect at <i>apanga</i> ; ×7; AM	6
	<i>Nasyam</i>	<i>Anu tailam</i> (ANXS-3) 2 drops, both nostrils; AM	5
	<i>Jaloukavacharana</i>	Freshwater leech; left upper eyelid; 30 min; honey smear + bandage	1
	<i>Aschyotana</i>	<i>Netramrutam</i> (NUYS-6) 2 drops at <i>kaneenika</i> (~2 <i>angula</i>); AM	6
3rd course	<i>Netraseka</i>	Fresh decoction 50 mL; ~2 <i>angula</i> at <i>kaneenika</i> ; collect at <i>apanga</i> ; ×7; AM	5
	<i>Nasyam</i>	<i>Anu tailam</i> (ANXS-4) 2 drops, both nostrils; AM	3
	<i>Jaloukavacharaaa</i>	Freshwater leech; left upper eyelid; 25 min; honey smear + bandage	1
	<i>Aschyotana</i>	<i>Netramrutam</i> (NUXS-8) 2 drops at <i>kaneenika</i> (~2 <i>angula</i>); AM	6

At each visit, the patient underwent *Deepana*, *Pachana*, *Srotoshodhana*, and *Virechana*. Given her *rooksha* (dry) state and need for strong purgation, *Nimbamruthadi Eranḍathailam* was used for *snehavirechana*. At the third visit, although symptoms had subsided, left-eye redness persisted; to mitigate *pitta*, *Avipathi choornam* was administered.

3. OUTCOME AND FOLLOW-UP

The patient was very cooperative and adherent to medication and procedures. During the daily close supervision of treatments, no adverse drug reactions or eye irritations were noticed. After *Jaloukavacharana* bleeding was very minimal and no pain or itching was observed. She exhibited progressive and sustained ocular health with no rise in IOP 13 mmHg→16 mmHg. LE VA LogMAR 1.30→0.477. Bonini el classification of VKC was observed to be reduced from grade 3 to grade 0 by the end of treatment. Clinical symptoms, (Table 5)

including itching, redness, photophobia, and ocular congestion, were appropriately addressed. (Figure 1) During the six-month follow-up period, the patient remained symptom-free and steroid independent and was advised to continue periodic *Kriyakalpa* therapies and adhere to *Kaphapittahara* diet and regimen for ocular health and prevent recurrence.

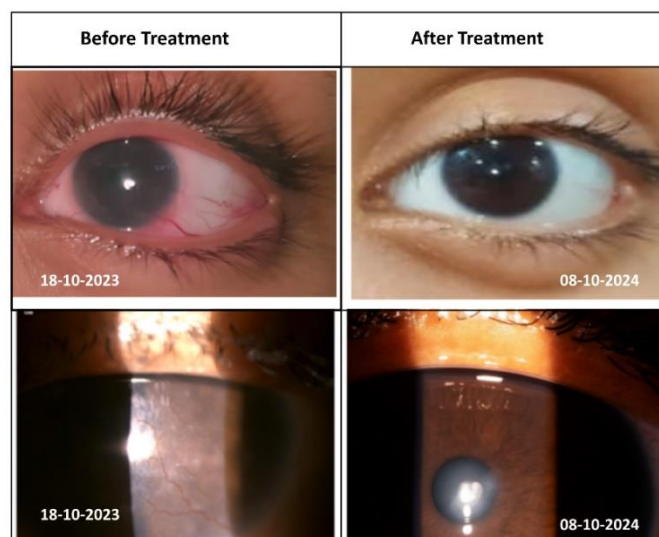


Figure 1: before and after treatment LE

Table 5: grading of ocular health

Time point	VA LogMAR	IOP mmHg	Corneal neovascularization (0-5)	Redness (0-5)	Itching (0-5)	Photophobia (0-5)	Bonini grade of VKC
22-07-2023	1.30	13	4	4	4	4	3
15-10-2023	1.17	14	3	4	2	2	2a

10-04-2024	1.07	15	1	2	1	1	2a
06-10-2024	0.47	14	0	2	0	0	1
13-03-2025	0.47	16	0	0	0	0	0

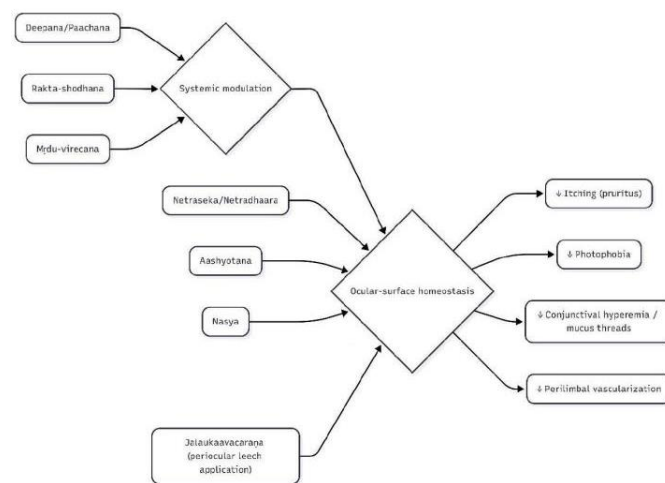
*0 – Nil, 1-very mild, 2- mild, 3-moderate, 4-severe, 5- very severe

4. DISCUSSION:

VKC corresponded to *Kaphaja Abhishyanda*, a *Vartmagata Netra Roga* described by *acharya Susruta*. [9] In this framework, *Kapha–Pitta* vitiation involving *Rasa, Rakta*, and *Mamsa dhatu* manifested as itching, redness, discharge, and swelling; management was therefore oriented to *Amapachana, Deepana, Rakta-shodhana, Sroto-shodhana*, and *Virechana*. Internal medicines were selected for *doshahara*, immunomodulatory, and *chakshushya* (wholesome for eyes) actions: *Guduchyadi kashayam* supported *amapachana/kaphapittahara* and anti-inflammatory–antioxidant effects; *Patolakaturohinyadi kashayam* provided *deepana, shophahara*, and *virechana* attributes; [10] *Vilwadi gulika* addressed *Kapha-Vata* with *deepana, pachana, grahi, sroto-shodhana*, and *lekhana* properties; [11] *Avipatti churnam* functioned as *deepana, pachana, vata-anulomaka, pittahara*, and *nitya-virechana*. [12]

External therapies complemented systemic care: *Netraseka* [13] with *Darvi, Yashti*, and *Lodra* targeted itching and lid congestion; *Nasyakarma* with *Anutailam* addressed *urdhvajatruvangadosha*; [14] *Jaloukavacarana* delivered anti-inflammatory/vasodilatory salivary factors; [15] *Aschyotana* facilitated drug contact across tear-film layers; [16] *Netramrutam* (Table 6) provided antimicrobial and *tridosha-shamana* support, with alum

showing anti-biofilm action. [17] Collectively, this integrative, course-based protocol improved visual acuity and resolved ocular symptoms while maintaining steroid-free follow-up. Probable mechanisms were summarized (Flowchart 1). As a single-patient experience, natural disease variation could have contributed; therefore, generalizability was limited, and larger controlled studies were warranted to validate the role of *Ayurveda* in VKC and related allergic conjunctival disorders.



*Flowchart 1: Mode of action

The combined interventions—*deepana/pachana, rakta-shodhana, virechana*, and *kriyakalpa (netraseka, aschyotana, nasya, jaloukavacarana)* were hypothesized to support ocular-surface homeostasis in VKC by improving tear-film quality, reducing conjunctival hyperemia and mucus threads, and modulating pruritus/photophobia. These mechanistic links were

exploratory, derived from a single case, and require confirmation in controlled studies.

Table 6: Netramrutham Each 10 ml prepared out of

Ingredients	Botanical name	Quantity
<i>Samudra lavana</i>	Normal saline	10ml
<i>Pithakhari</i>	Potash alum	1.36%
<i>Saindhava lavana</i>	Sodium chloride	0.44%

5. CONCLUSION:

Early and accurate diagnosis of VKC is crucial to prevent complications like corneal deterioration and vision impairment. Educating patients and their caregivers about the chronic nature of VKC and the necessity of ophthalmic care is essential.

In this case, the patient experienced significant relief from symptoms including itching, ocular congestion, and photophobia. Notably, the DVA in the LE improved from LogMAR 1.30→0.477. Follow-up evaluations indicated effective control of symptom recurrence. These findings suggest that *Ayurvedic* therapies *Netradhara*, *Nasya*, *Jaloukavacharana*, and *Aschyotana* may provide beneficial effects in VKC.

Declaration of Patient Consent – The authors confirm that they have acquired a patient consent form, in which the patient or caregiver has granted permission for the publication of the case, including accompanying images and other clinical details, in the journal. The patient or caregiver acknowledges that their name and initials will not be disclosed, and sincere attempts will be undertaken to safeguard their identity. However, complete anonymity cannot be assured.

Patient perspective - My itching redness, and light sensitivity reduced and not recurred for past 6 months. My clarity in vision also considerably improved.

Authors Details:

^{1*}Deputy Chief Physician, Sreedhareeyam Ayurvedic Eye Hospital and Research Centre, Sreedhareeyam Ayurvedic Research and Development Institute, Nelliakkattumana, Kizhakombu PO, Koothattukulam-686662. Ernakulam, Kerala, India.

²Research Officer, Sreedhareeyam Ayurvedic Research and Development Institute, Nelliakkattumana, Kizhakombu PO, Koothattukulam-686662. Ernakulam, Kerala, India.

³Chief Physican, ⁴Chief Medical Officer, Sreedhareeyam Ayurvedic Eye Hospital and Research Centre, Sreedhareeyam Ayurvedic Research and Development Institute, Nelliakkattumana, Kizhakombu PO, Koothattukulam-686662. Ernakulam, Kerala, India.

⁵, ⁶Research Coordinator, Sreedhareeyam Ayurvedic Research and Development Institute, Nelliakkattumana, Kizhakombu PO, Koothattukulam-686662. Ernakulam, Kerala, India.

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Authors Contribution:

Conceptualization and clinical management: SKL, NN

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