

Case report

An ayurvedic approach to a case of ulcerative keratitis (*Savvana Shukra*)

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ABSTRACT

Ulcerative keratitis (UK) is one of the most prevalent ocular diseases characterized by partial or total loss of vision. While contact lens wear is the primary risk factor of the UK in the young, compromised ocular immunity is responsible for it in the old age group. Early diagnosis and treatment help to bring about better results. Antimicrobial therapy remains the mainstay of treatment in ulcerative keratitis, whereas adjunctive topical corticosteroid therapy remains a matter of debate. The UK signs and symptoms match that of *Savvana Shukra* mentioned in the Ayurvedic texts. We present the case of a 72-year-old male admitted for redness and blurred vision in the right eye, associated with ocular pain, tearing, and photophobia. We diagnosed the case as *Savvana Shukra*. He underwent Ayurvedic therapy in the form of internal medicines such as *Amritotaram Kashaya*, *Manjistadi kashaya*, *Kaisora Guggulu* and *Pratimarsha Nasya with Anu tailam*. He also underwent treatments such as *Jalokavacharana*, *Netra Seka*, *Vidalaka* and *Anjana karma*. After a month of treatment, the corneal ulcer healed completely and thinned down the scar on the cornea. His visual acuity improved from 6/60B to 6/6 in the affected eye. Ayurvedic treatment was effective in completely healing the corneal ulcer and controlling the active inflammation, thereby improving vision. However, more extensive studies with larger samples will yield more data to prove the potential of Ayurveda in such cases.

Keywords: Jalokavacharana; Anjana karma; Ayurveda; Corneal ulcer; Corneal opacity.

INTRODUCTION

Keratitis is one of the most prevalent ocular diseases manifested by partial or total loss of vision. Ulcerative keratitis is devastating corneal morbidity with a variable spectrum of clinical manifestations depending on the infective aetiology. Irrespective of the varied presentation, delayed treatment can lead to severe visual impairment resulting from possible perforation and subsequent scarring. Corticosteroids with a potent anti-inflammatory activity reduce host inflammation, thus minimizing resultant scarring while improving ocular symptoms. Antimicrobial therapy remains the mainstay of treatment in ulcerative keratitis, whereas adjunctive topical corticosteroid therapy remains a matter of debate (1). The features of ulcerative keratitis correlate with the description of *Savvana Shukra* in the classical Ayurvedic texts (2).

Rigorous clinical studies have not been conducted to establish the role of Ayurvedic interventions in ulcerative keratitis. In this case report, we are pointing out the potential of Ayurvedic treatment in healing the corneal ulcer, preventing complications and improving the patient's vision.

Patient information

A 72-year-old male living in Kollam presented at our hospital in Kollam, Kerala, seeking Ayurvedic treatment for his complaints. He presented with complaints of pain, redness and watering and blurring of vision in the right eye for ten days. All his family members were reported to be normal. He was concerned about the severe blurring of vision in his

right eye as he could see only a white covering on closing his left eye. He was concerned that he would never regain his right-eye vision and become dependent on someone else for his daily needs. Ten days back, the patient developed redness in his right eye after returning from a short trip. He denies any foreign body has fallen in the eye. He waited for three days for it to resolve. But when the symptoms increased, he consulted a physician who prescribed him Amoxicillin eye drops. The patient used it for a week, but his vision did not improve despite symptomatic relief. So, he came to our hospital for Ayurvedic treatment. The patient was non-diabetic and non-hypertensive and was not under medication for any other diseases. This was the first incident of eye disease in him. A written informed consent was obtained from the patient to publish this case report.

Clinical findings

The best corrected visual acuity (BCVA) was 6/60B in his right eye and 6/9 in his left eye. Torchlight examination revealed a white-coloured lesion on the right cornea, partially obstructing the pupillary zone, associated with circumciliary congestion and watery discharge. Slit lamp examination after fluorescein staining revealed a disc-shaped corneal ulcer approximately 5 mm. It had sloping edges, and the floor did not show the presence of pus. There was reduced corneal sensation. The anterior chamber did not reveal any activity or the presence of hypopyon. The papillary reaction was difficult to assess as the papillary zone was opaque. Fig. 1 shows the photograph of the right eye after fluorescein staining. However, his left eye was quiet and showed no acute

symptoms. Timeline (Fig. 2) is provided which is self-explanatory.

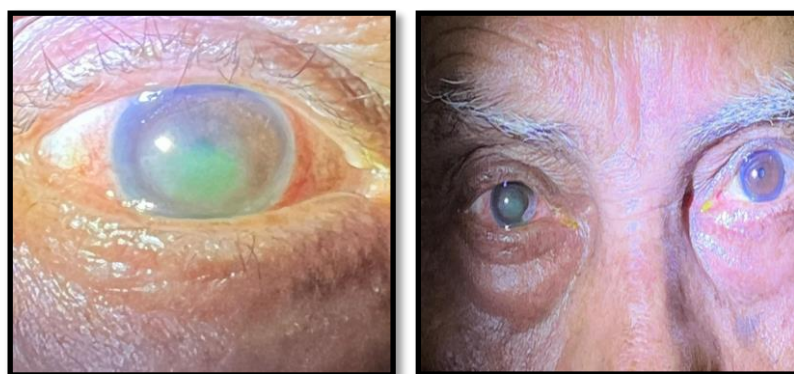


Fig. 1: The right eye after fluorescein staining.

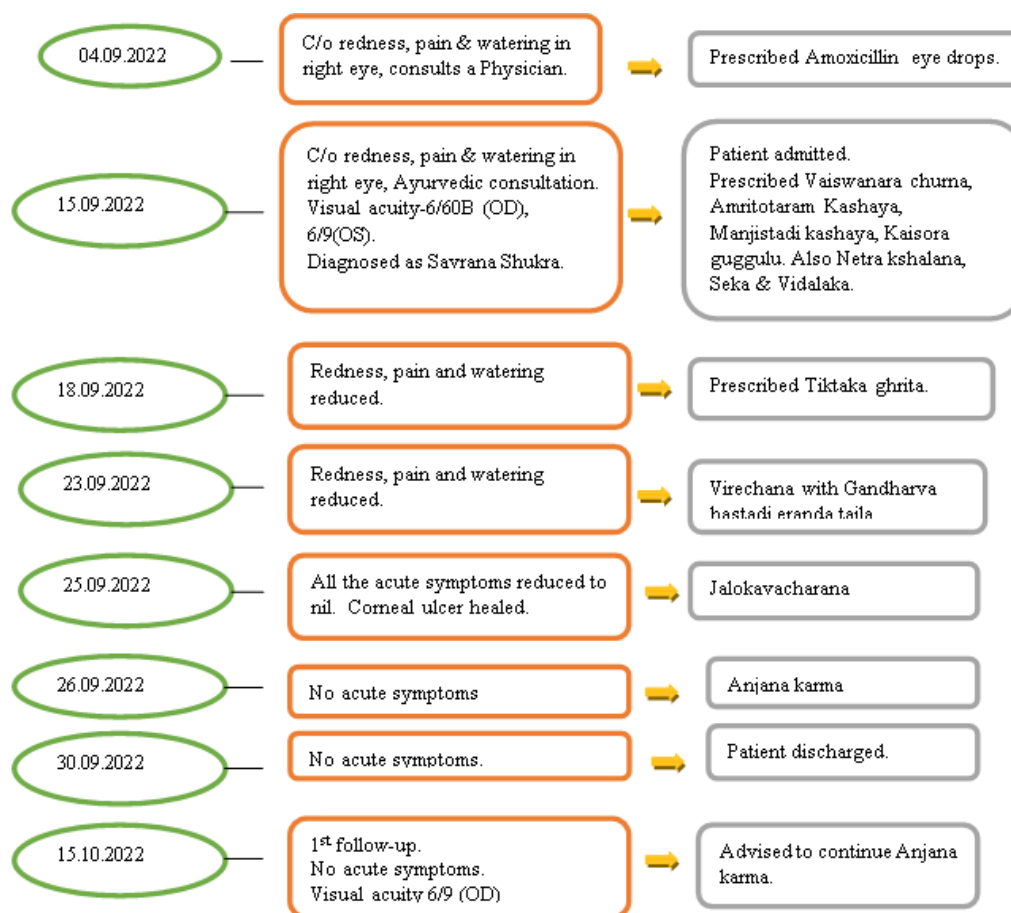


Fig. 2: Timeline

Diagnostic assessment

Snellen's chart was used to assess visual acuity. A slit lamp examination was done to evaluate the changes in the cornea. Photographs were taken before and after the treatment. The corneal ulcer was visible both on the flashlight and slit lamp examination. However, as it covered the papillary zone, it wasn't easy to elicit the papillary reaction in the right eye.

Clinical examination confirmed it to be a case of corneal ulcer. Symptoms like watery discharge, circumciliary congestion, photophobia, eye pain and reduced corneal sensation suggested viral involvement. The absence of a dendritic pattern of ulceration and mucoid discharge differentiated it from herpes and bacterial ulcers.

The symptoms like *Nimagna rupa in Krishna mandala* (discontinuation of tissue in the black part of the eye), *Suchyeva viddham* (appearance as if pricked out with a needle), *Sraava* (watery discharge) and *Athiva ruk* (pain) suggested *Savarna Shukra* and clearly differentiated it from all the other *Krishnagata rogas* (2). Elderly patients with microbial keratitis tend to present with severe central ulcers with a significant risk of poor visual outcomes (3). Ayurveda Acharyas have also opined that such corneal ulcers are *Krichrasadhya* (difficult to treat).

Therapeutic interventions

The patient had used Amoxicillin eye drops for a week and stopped afterwards. *Amapachana* (use of

digestives), *Snehana* (oleation), *Virechana* (laxatives), and *Pratimarsha Nasya* (nasal drops) were done. *Kriya kalpas* included *Netra kshalana* (eye wash), *Netra Seka* (pouring medicine on the closed eyes), *Aschotana* (eye drops), *Vidalaka* (application of medicated paste on the eyelids) and *Anjana* (collyrium). The treatment started with *Amapachana* medications such as *Vaiswanara churna* (4) and *Amritotataram Kashaya* (4). After three days, *Snehana* was done for five days with *Tiktakam ghrita*(5). *Virechana* was done with 25 ml of *Gandharva hastadi eranda taila* (4) mixed with milk on the sixth day. From the eighth day, we prescribed him *Patoladi Kashaya* (4), *Manjistadi kashaya*(4) and *Kaisora Guggulu*(4). We also added *Pratimarsha Nasya* with *Anu tailam*(4). See table 1 for the complete list and details of internal medication.

We started the external treatments with *Netra kshalana* with *Triphala kashaya*, followed by *Netra Seka* with *Yasti lodhra manjistadi kashaya*. *Vidalaka* was done with *Mukkadi purambada* (5). We continued

this for one week till the acute symptoms subsided completely. Then, one sitting of *Jalokavacharana* (leech therapy) was done. From the next day, *Anjana karma* with *Mudgaanjana*(2) was done for a month. See table 2 for the complete list and details of external treatments.

We prescribed *Drakshadi kashaya* (4) instead of *Patoladi kashaya* upon the patient's discharge. The two weeks of inpatient treatment had helped to subside the *Pitta Kapha Doshas* considerably through *Patoladi kashaya*. To prevent excessive *rukshana* (dryness) and to sustain the subsided *Dosas*, *Drakshadi kashaya* was prescribed. However, *Manjistadi kashaya* and *Kaisora Guggulu* were continued.

Upon discharge from the hospital, we asked the patient to continue using the *Anjana* and follow up after two weeks. Later, we advised him to continue its use for two more weeks.

Table 1: The details of the internal medicine

Date	Rationale	Medicine	Dosage	Adjuvant	Duration
15/09/2022 to 18/09/2022	Amapachana	Vaiswanara churna	10g twice daily before food	Warm water	3 days
18/09/2022 to 22/09/22	Snehana	Tiktaka ghrita	20 ml after dinner	Rice gruel	5 days
23/09/2022	Virechana	Gandharva hastadi eranda taila	25 ml	Warm milk	1 day
24/09/2022 to 25/10/2022	Shamana	Anu tailam	5 drops	-	1 month

Table 2: The details of the external treatments

Date	Rationale	Treatment	Medicine	Duration
15/09/2022 to 18/09/2022	Kshalana	Netra kshalana	Triphala kashaya	3 days
15/09/2022 to 22/09/2022	Amapachana	Netra Seka	Yasti lodhra manjista kashaya	8 days
15/09/2022 to 22/09/2022	Amapachana	Vidalaka	Mukkadi purambada	8 days
25/09/2022	Rakta mokshana	Jalokavacharana	Jaloka	1 day
26/09/2022 to 30/10/2022	Lekhana	Anjana karma	Mudganjana	1 month

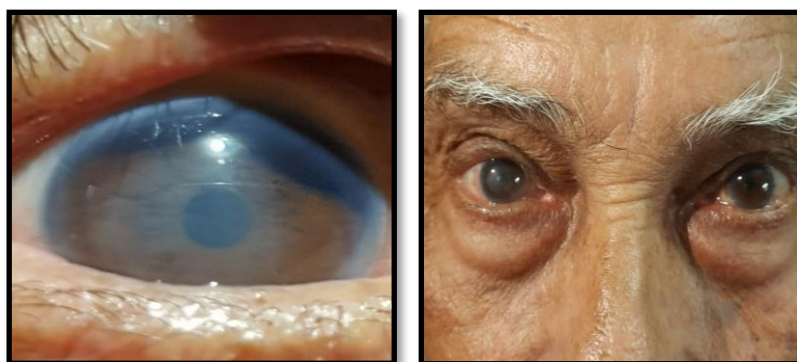


Fig. 3: The right eye after the treatment

Follow-up and outcomes

Assessments done before treatment (BT) and after treatment (AT) in the patient revealed that the visual

acuity had improved from 6/60B to 6/9 in the first follow-up and 6/6 in the second one. A slit lamp examination revealed that the corneal ulcer had healed

completely, the opacity's thickness had reduced, and the pupil was now visible to elicit the pupillary reflex. Fig. 3 shows the photograph of the right eye after treatment.

The patient reported an improvement in vision and, in turn, reduced anxiety due to the disease. The patient tolerated all the treatments well. No adverse events were reported during the entire course of the treatment. Intervention adherence and tolerability, and adverse and anticipated events were assessed by interrogation of the patient.

DISCUSSION

Due to photophobia and anxiety in the patient, slit lamp images of the corneal ulcer could not be obtained. The patient strictly adhered to all the diet regimens as advised, which helped to continue the treatment smoothly. Research papers in indexed and peer-reviewed journals exploring Ayurveda's role in managing ulcerative keratitis are scarce. We report a case of ulcerative keratitis treated with only Ayurvedic drugs.

Descriptions resembling ulcerative keratitis are found in Sushruta Samhita (an Ayurvedic text) as *Savarna Shukra*. In this text, the line of treatment has also been described, referred to as the guideline to formulate the treatment for our patient. *Amapachana* for the *Kosta* (the gut) and the eyes are to be done, followed by *Snehana* and *Virechana*. Being a *Rakta Pitta Pradhana vyadhi* (disease predominant in Rakta and Pitta Doshas), *Jalokavacharana* has been described. After the acute symptoms have subsided, *Lekhananjana prayoga* (use of strong collyrium) has been advised by the Acharya.

An acute condition like ulcerative keratitis can be managed effectively through Ayurvedic intervention bringing about better visual outcomes than the conventional treatment. Well-planned clinical studies with larger sample sizes will further help to establish the competence of Ayurvedic treatment in such cases.

Patient's perspective

I experienced redness, pain and watering in my right eye after returning from a short bus trip. When it worsened in two days, I consulted a physician who prescribed eye drops. I used it meticulously as per his instructions for a week. Though the symptoms were reduced, my vision did not improve. I could only visualize a white cloud in front of my right eye. Then, I consulted the Ayurvedic Ophthalmologist. She admitted me to the hospital and prescribed some internal medicines and treatments for the eyes. She also did leech therapy and applied a special collyrium in my eyes. From the second day of starting the treatment, I began noticing the changes. The redness, watering and pain reduced in 3-4 days, and I began to feel better. After taking ghee for a few days, I had purgation, followed by leech therapy. By then, my

vision had improved, and the cloudiness was less. The collyrium was very strong and caused a lot of watering in my eye after application. On the day of discharge from the hospital, my vision had improved considerably, and I could read all the letters, even in the last line of the chart. I thank God for guiding me to take up Ayurvedic treatment.

CONCLUSION

The clinical presentation of ulcerative keratitis matches the textual description of *Savarna Shukra*. Acharya says it presents as *Nimagna rupa in Krishna mandala* (discontinuation of tissue in the black part of the eye), *Suchyeva viddham* (appearance as if pricked out with a needle), *Sraava* (watery discharge) and *Athiva ruk* (pain). Acharya explains it as a *Nija vyadhi* (a disease with an intrinsic cause). The initial *Pitta dusti* eventually involves the *Rakta Dosa*, supported by *Achakshushya nidanas* (causative factors harmful to the eyes), having *Sthana samshraya* (site of pathology) in the *Krishna mandala*, leads to the manifestation of a *Vrana* (ulcer) which is severely painful. Considering the pathology of *Savarna Shukra*, the treatment adopted was *Amapachana*, *Snehana*, *Virechana*, *Raktamokshana* and *Lekhana*. Since the *Pitta dusti* starts in the *Kosta* (the gut), the *Kostagata amapachana* was done through *churna* and *kashaya*. *Snehana* with *ghrita*, followed by *Virechana*, is the tailored treatment for *Pitta dusti*. Simultaneously, *Netragata ama chikitsa* was done through *Seka* and *Vidalaka*. *Netra Kshalana* was done to wash away any microbial matter from the eyes. After the acute symptoms subsided, *Jalokavacharana* was done to remove the *Dushita Rakta* (vitiated blood) from the eye. *Lekhananjana* (strong collyrium) helped to scrape away the *Dosa* from the *Krishna mandala*, thereby reducing the opacity of the cornea.

CONFLICT OF INTEREST

The author declares no conflicts of interest for the study.

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