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REVIEW ARTICLE

Conceptual Review on *Savrana Shukra* (~ Corneal Ulcer): A Comparative Study between Ayurvedic and Modern Ophthalmology

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ABSTRACT

Savrana Shukra is one among the *Krishnamandalagata Rogas* (~black portion of eye) described in Ayurvedic text, predominantly explained in *Sushruta Samhita Uttara Tantra.* The disease shows close resemblance with corneal ulcer described in modern ophthalmology because there are similarities in etiopathogenesis, symptomatology, prognosis, and management principles. It is a major cause of ocular morbidity and preventable blindness worldwide. Ayurveda considers *Savrana Shukra* as a *Rakta-Pitta* predominant disorder involving *Krishna Mandala.* The disease manifests with severe pain, redness, lacrimation, photophobia, and corneal opacity. Classical management includes *Raktamokshana* (*~bloodletting*), *Virechana* (*~ therapeutic purgation*), *Seka* (*~hot fomentation*), *Anjana* (*~coryllium*), and *Vrana Ropana* (*~wound healing*) therapies. This conceptual review critically analyzes *Savrana Shukra* in the light of contemporary understanding of corneal ulcer and highlights the importance of integrative approaches in preventing corneal ulcer.

1. INTRODUCTION

The cornea forms the transparent anterior 1/6th of the fibrous coat of the eyeball and contributes significantly to refractive power and visual acuity.[1] Due to direct exposure to environmental pathogens and trauma, the cornea is highly susceptible to infection and trauma. Corneal ulcer is defined as a corneal epithelial defect associated with underlying stromal inflammation, usually caused by infective agents.[2] In developed countries, the annual incidence ranges from 11 to 27/100,000 population due to contact lens use,[3] and in developing nations, 113 to 799/100,000 population, which is mainly due to trauma with vegetative matter and poor ocular hygiene.[4] antimicrobial resistance (AMR) presents a global challenge with a huge impact on morbidity and mortality.[5]

Acharya Sushruta has described *Savrana Shukra* under *Krishnagata Rogas* in the *Uttara Tantra* of *Sushruta Samhita*.[6] Among them, *Savrana Shukra* is considered analogous to corneal ulcer due to similarities in clinical manifestations such as pain, redness, photophobia, discharge, and corneal ulceration.[7]

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Ayurvedic classics emphasize *Rakta Dushti*[8] and *Pitta*[9] predominance in the pathogenesis of *Savrana Shukra.* The disease has been considered *Kriccha Sadhya* (~difficult to cure) due to involvement of delicate ocular structures and potential visual impairment.

1.1. Aim and Objectives

1.1.1. Aim

The aim of the study was to critically evaluate *Savrana Shukra* in correlation with corneal ulcer from both Ayurvedic and contemporary ophthalmological perspectives.

1.1.2. Objectives

The objectives of the study are as follows:

1. To review Ayurvedic literature regarding *Savrana Shukra*
2. To correlate *Savrana Shukra* with corneal ulcer in modern ophthalmology
3. To analyze Ayurvedic management principles in the context of corneal ulcer.

2. MATERIALS AND METHODS

The present review is based on classical Ayurvedic texts, including *Sushruta Samhita*, *Ashtanga Hridaya,* and contemporary

ophthalmology literature. Relevant review articles, case studies, and published research papers indexed in scholarly databases were analyzed for conceptual correlation.

3. REVIEW OF LITERATURE

3.1. Ayurvedic Perspective of *Savrana Shukra*

Savrana Shukra is described under *Krishnagata Rogas* in the *Uttara Tantra* of *Sushruta Samhita.* The term can be divided as:

- *Sa* + *Vrana* = associated with ulcer/wound
- *Shukra* = white discoloration or opacity over *the Krishna Mandala.*

3.1.1. Nidana (~causative factor)[10]

The etiological factors of *Savrana Shukra* are broadly classified into two categories: *Nija* and *Agantuja. Nija Nidanas* refer to endogenous causes resulting from the vitiation of *Doshas,* namely *Vata, Pitta, Kapha*, and *Rakta,* whereas *Agantuja Nidanas* comprise exogenous factors such as *Netra Abhighata* (~ocular trauma), foreign body injury, and other external insults. Although specific *Nidanas* for *Savrana Shukra* are not explicitly described in the classical texts, the general *Nidanas* of *Netra Rogas* may be considered applicable to this condition.

The common *Poorvaroopa* (~prodromal features) of ocular disorders described in Ayurveda include *Avila* (~muddiness or turbidity of the eye), *Samrambha* (~mild congestion associated with pain and edema), *Ashru Srava* (~watering), *Kandu* (~itching), *Upadeha* (~stickiness), *Guruta* (~heaviness), *Osha* (~burning sensation), *Toda* (~pricking pain), *Raga* (~redness), *Shoola* in *Vartma Kosha* (~pain in the inner and outer canthus), *Shooka Poorna Netra* (~foreign body sensation), *Vihanyamana Roopa* (~visual disturbances), and *Kriyahani* (~impairment of ocular functions).[11]

3.1.2. Samprapti (~pathogenesis)

Vitiation of *Pitta* and *Rakta Doshas* involving the *Krishna Mandala* leads to inflammatory alterations characterized by ulceration, suppuration, ocular discharge, and corneal opacity. Persistent or chronic inflammation may subsequently result in corneal scarring and impairment of vision.

3.1.3. Lakshana (~clinical features)[12]

According to *Acharya Sushruta,* the condition is characterized by involvement of the *Asita Pradesh* (~black portion of the eye), accompanied by *Ushna Srava* (~warm lacrimation) and *Tivra Ruka* (~severe ocular pain). The lesion is described as *Nimagna Roopa,* indicating a deeply seated pathology that is not readily visible to the naked eye, and resembles *Suchi viddha* (~ needle-prick-like appearance over the cornea). These classical clinical features closely correlate with the presentation of infective keratitis and corneal ulcer described in modern ophthalmology. Sign and symptoms of corneal ulcer similarity with *Savrana Shukra* describe in Table 1.

3.2. Ayurvedic Management Principles

Ayurvedic approach focuses on both reducing the inflammation and promoting healing. *Sushruta's* measures, such as *Gharsana* (~debridement), *Anjana, Tarpana* (~topical eye therapy), and *Vaivarnya-Nashana* (~complexion restoring) formulations appear more suitable with debridement of slough, epithelial regeneration, and reducing residual opacity.[13,14] *Vagbhata's* line of management includes *Trivrit ghrita* for *Virechana, Raktamokshana* through *Si*ravedha or *J*alaukavacharana, *G*hritapana, *and N*asya (~nasal drops), which addresses the predominant *Pitta–Rakta Shamana*.[15] These procedures may help reduce inflammation and promote epithelial healing.

4. DISCUSSION

Savrana Shukra is a severe ocular disorder involving the *Krishna Mandala* and bears significant resemblance to a corneal ulcer described in modern ophthalmology. Both conditions share common etiological factors such as ocular trauma, microbial infection, exposure to dust and foreign bodies, improper contact lens hygiene, and impaired ocular surface defense mechanisms. Clinically, both present with severe ocular pain, redness, photophobia, lacrimation, discharge, diminution of vision, and corneal opacity. In advanced stages, complications such as stromal melting, descemetocele formation, corneal perforation, and permanent visual impairment may occur if timely intervention is not provided.

According to Ayurvedic principles, *Savrana Shukra* is predominantly associated with vitiation of *Rakta* and *Pitta Dosha*, leading to ulceration and suppuration in the corneal tissue. Hence, the line of treatment mainly emphasizes *Rakta-Pitta Shamana, Vrana Shodhana*, and *Vrana Ropana*. Therapeutic modalities such as *Raktamokshana, Aschyotana, Anjana, Seka,* and administration of medicated *Ghrita* preparations are described for reducing inflammation, relieving pain, promoting tissue healing, and preventing further ocular damage.

Modern management of corneal ulcer primarily depends on intensive antimicrobial therapy, cycloplegics, lubricants, and supportive care. Despite advances in ophthalmic therapeutics, challenges such as antimicrobial resistance, recurrent infection, delayed epithelial healing, corneal scarring, neovascularization, and visual morbidity continue to affect prognosis. Severe cases may ultimately require surgical interventions such as amniotic membrane grafting or therapeutic keratoplasty.

Ayurvedic formulations containing *Ghrita*, herbal extracts, and mineral preparations are reported to possess anti-inflammatory, antimicrobial, antioxidant, analgesic, and wound-healing properties, which may aid in the restoration of corneal integrity and reduction of scar formation. Procedures like *Raktamokshana* are also believed to reduce local inflammation and improve microcirculation around the affected ocular structures. Integrative management combining Ayurvedic supportive therapies with conventional ophthalmic care may therefore offer a holistic approach for improving symptomatic relief, accelerating corneal healing, and minimizing long-term complications. Recent clinical studies, review articles, and case reports have shown encouraging outcomes of Ayurvedic interventions in the management of corneal ulcer, indicating the need for further systematic research and evidence-based evaluation in this field.

5. CONCLUSION

Savrana Shukra, as described in Ayurvedic classics, can be closely correlated with corneal ulcer based on similarity in anatomical involvement, etiopathogenesis, clinical features, and prognosis. Ayurveda provides a comprehensive therapeutic approach through *Shodhana* (purification), *Kriyakalpa* (~local ocular procedures), and *Vrana Ropana* (~healing therapy) therapies. Integrative management combining Ayurvedic principles with modern ophthalmology may help reduce complications and improve visual outcomes. Further evidence-based clinical studies are required to validate the efficacy of Ayurvedic interventions in corneal ulcer management.

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7. AUTHORS' CONTRIBUTIONS

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9. ETHICAL STATEMENT

Institutiona Ethical Committee approval is not required as it is a review study

10. CONFLICT OF INTERESTS

The authors declare no conflicts of interest regarding the publication of this paper.

11. DATA AVAILABILITY STATEMENT

The data analyzed in this review were obtained from publicly available sources, including peer-reviewed articles, observational studies, and surveys accessible through databases.

12. DISCLAIMER/VIEW AND OPINIONS

The opinions expressed in this article are solely those of the authors and do not reflect the views of the International Research Journal of Ayurveda and Yoga or its editorial board.

13. AI-USE DECLARATION

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Table 1: Signs and symptoms of savrana shukra of corneal ulcer similarity with lakshana of *Savrana Shukra*

Signs and symptoms of corneal ulcer	Similarity with the signs and symptom of *Savrana shukra*
Active inflammation of the cornea is said to have lesions like punctate epithelial lesions	*Suchi eva viddham Pratibhati* (round lesions like a prick with a needle)
Corneal ulcer with infiltration or defective vision	Denoted as a loss of *Krishna-Mandala* tissue leading to saucer-shaped depression (*Nimagna-Rupa*)
Hypopyon in corneal ulcer	(*Nishpava-Ardhadalakriti*-cut flatbean seed appearance)
Acute condition with infiltration or corneal neo vascularization	In acute cases, presented as “Coral Red” appearance *Vidrumabham-Pralakshate*
A chronic condition of the endothelium with haziness in the cornea	Chronic cases, presented as “blackish-red” appearance (*Pakva-Jambuphala*)
Corneal scarring and opacity	Localised opacity of the cornea without inflammation, termed *Shuddha-Shukra*
a sequel of an active wound or in a fungal corneal ulcer, which has a feathery appearance.	*Tithiri-Pakshatulya* (similar to the wing of a red-wattled lapwing bird, which is white in centre and brown toward the end)
Circumcorneal congestion	(*Lohitam-Antataha*)
Corneal descemetocele	*Mudganibham-Pidaka-Cha-Krishn*e
Corneal perforation with iris prolapse	*Vicchinna-Madhyam-Pishita-Avritam*
Serpiginous corneal ulcer characterised by active ulceration at the leading edge and healing at the trailing border, giving a shifting appearance	*Chalam*