

**Effect of Lactoferrin vs Triphala Ghrita Tarpana with Triphala
Ghrita Pana in SICS-Induced Dry Eye –
A Comparative Case Study**

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Abstract

Dry eye disease (DED) is a common complication following Small Incision Cataract Surgery (SICS). Surgical trauma, corneal nerve disruption, postoperative inflammation, and topical medications contribute to tear film instability and ocular surface damage. Lactoferrin, a natural tear glycoprotein, possesses anti-inflammatory and immunomodulatory properties, whereas Triphala Ghrita is an established Ayurvedic formulation known for its Chakshushya (vision-promoting), Rasayana, and Vata-Pitta pacifying actions. To compare the effectiveness of oral Lactoferrin and Triphala Ghrita Tarpana combined with Triphala Ghrita Pana in the management of SICS-induced dry eye.

Two patients who developed dry eye symptoms after uncomplicated SICS were evaluated using Tear Film Break-Up Time (TBUT), Schirmer's Test-I, Ocular Surface Disease Index (OSDI), and slit-lamp examination. One patient received oral Lactoferrin, while the second underwent Triphala Ghrita Tarpana along with oral Triphala Ghrita Pana. Both treatment modalities improved dry eye symptoms. However, the patient treated with Triphala Ghrita Tarpana and Pana demonstrated greater improvement in tear film stability, symptom relief, and ocular surface health. Both Lactoferrin and Triphala Ghrita therapy appear beneficial in postoperative dry eye management. The combined Ayurvedic approach may provide additional advantages in restoring tear film function and reducing ocular discomfort after SICS.

Keywords: Dry Eye Disease, SICS, Lactoferrin, Triphala Ghrita, Tarpana, Pana, Cataract Surgery.

Introduction

Dry eye disease is one of the most frequently encountered complications following cataract surgery. The corneal incision, surgical manipulation, postoperative inflammation, and prolonged use of topical medications can disrupt the ocular surface and tear film homeostasis. Lactoferrin is an iron-binding glycoprotein naturally present in tears and has demonstrated anti-inflammatory and antimicrobial properties.[1] Reduced tear lactoferrin levels have been associated with dry eye disease. In Ayurveda, Triphala Ghrita is widely described in Netra Chikitsa for the management of ocular disorders.[2] Tarpana provides local nourishment to ocular tissues, while oral administration (Pana) enhances systemic support and promotes ocular surface healing.[3] This case study compares the therapeutic effects of oral Lactoferrin and Triphala Ghrita Tarpana with Triphala Ghrita Pana in patients suffering from SICS-induced dry eye.

Case Study 1 (Lactoferrin Group)

Patient History - A 62-year-old male presented with complaints of foreign bodysensation, burning sensation, dryness, and intermittent watering in the operated eye one week after SICS. **Past Ocular History** - Senile immature cataract in the right eye.

Ocular Medications - Moxifloxacin + Prednisolone eye drops postoperatively.

Past Medical History - No history of diabetes mellitus or hypertension.

Surgical History - Uneventful Small Incision Cataract Surgery with PCIOL implantation.

Past Family Ocular History - Non-contributory.

Social History - Non-smoker and non-alcoholic.

Allergies - No known drug allergies.

Ocular Examination

Visual Acuity (CC) IOP (Tonoapplanation)

OD: 6/9 OD: 14 mmHg

OS: 6/6 OS: 15 mmHg

Pupils - Round, regular, reactive to light.

Slit Lamp Examination - Mild conjunctival congestion, reduced tear meniscus height, unstable tear film.

Diagnostic Tests

Parameter Day 7 Day 30 Day 60

TBUT 9 sec 11 sec 13 sec

Schirmer I 18 mm 24 mm 29 mm

OSDI Score 38 22 12

Diagnosis - SICS-induced Dry Eye Disease.

Treatment

- Oral Lactoferrin 350 mg once daily

- Routine postoperative medications

- Lubricating eye drops as required

Case Study 2 (Triphala Ghrita Tarpana + Triphala ghrita Pana Group)

Patient History - A 60-year-old female presented with dryness, itching, burning sensation, and ocular fatigue one week after SICS.

Past Ocular History - Senile cataract in the left eye.

Ocular Medications - Routine postoperative antibiotic-steroid combination.

Past Medical History - Controlled hypertension.

Surgical History - Uneventful SICS with PCIOL implantation.

Past Family Ocular History - Non-contributory.

Social History - Housewife, non-smoker.

Allergies - No known allergies.

Ocular Examination

Visual Acuity (CC) IOP (Tonoapplanation)

OD: 6/6 OD: 15 mmHg

OS: 6/9 OS: 14 mmHg

Pupils - Normal and reactive.

Slit Lamp Examination - Mild punctate epithelial erosions with reduced tear film stability.

Diagnostic Tests

Parameter Day 7 Day 30 Day 60

TBUT 8 sec 13 sec 16 sec

Schirmer I 17 mm 28 mm 33 mm

OSDI Score 42 18 8

Diagnosis - SICS-induced Dry Eye Disease.

Treatment

- Triphala Ghrita Pana 10 ml twice daily - For one Month

- Triphala Ghrita Tarpana for 7 days - After one Month

- Routine postoperative care

Discussion

Postoperative dry eye is a multifactorial condition caused by corneal nerve damage, inflammation, ocular surface disruption, and preservative-containing medications.[5] Lactoferrin helps restore tear film stability through its anti-inflammatory and antimicrobial effects. Triphala Ghrita possesses Chakshushya, Rasayana, and Vata-Pitta shamaka properties.[4] Tarpana nourishes the ocular surface directly, enhances tear film stability, and promotes epithelial healing. Oral administration further supports tissue regeneration and systemic ocular health. In the present case comparison, both treatment modalities improved symptoms and objective tear film parameters. However, Triphala Ghrita Tarpana with Pana demonstrated comparatively greater improvement in TBUT, Schirmer's test values, and OSDI scores, suggesting superior restoration of tear film homeostasis. The findings indicate that Ayurvedic ocular therapies may serve as effective adjuncts in managing postoperative dry eye following SICS.

Conclusion

Both oral Lactoferrin and Triphala Ghrita Tarpana with Triphala Ghrita Pana were effective in reducing symptoms of SICS-induced dry eye. The Triphala Ghrita group demonstrated comparatively better improvement in tear secretion, tear film stability, and subjective symptom relief. Larger controlled clinical studies are recommended to validate these findings.

References

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