

## TO STUDY THE EFFECT OF *TIPHALA GHRIT* ABHYANTARPAN IN *SAVRAN SHUKLA* (CORNEAL ULCER)

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### ABSTRACT

*Savran Shukla* (corneal ulcer) is described by *Acharyas* under *Krushnagat Rog*. *Savran Shukla* (corneal ulcer) is a disease in which there is hazard of blindness due to corneal opacity if it not treated within proper time as well as with proper treatment. Corneal opacity is complication due to some health condition which include immunocompromised health condition, dry eye due deficiency of nutritional factors. To avoid complication and reduce the duration of healing with minimum complications, nutritional supplements play important role. 30 patients having *Savran Shukla* (corneal ulcer) and receiving routine treatment of modern medicine for the same and willing to participate in study were selected for each group i.e. experimental and control group. These patient were selected from patients attending Netra Vibhag of Shalakyta Tantra department of Seth Sakharam Nemchand Jain Ayurved Hospital, Solapur. The study was carried at Seth Sakharam Nemchand Jain Ayurved Hospital, Solapur during April 2007 to Dec 2014. Both Group were treated with routine modern treatment for corneal ulcer. Experimental Group was additionally treated with *Triphala Ghrith* orally in the dose of 1 tsf once daily with milk as *Anupan*. Duration of therapy was about two to three weeks which may be extended as per healing of *Savran Shukla* (corneal ulcer). *Triphala Ghrith* is rich in vitamin A as well as it contains linoleic acid. Due to these properties it has anti-inflammatory property and helpful to treat xerosis and dry eyes. After the comparative study, it was observed that a simple regime of *Abhyantarpan* of *Triphala Ghrith* promotes healing and improving quality of healing by reducing complications like vascularization and corneal opacity which may lead to blindness.

**Key Words:** *Abhyantarpan*, Corneal ulcer, Dry Eye, *Krushnagat Rog*, *Savran Shukla*, *Triphala Ghrith*, Xerosis

### INTRODUCTION

*Savran Shukla* (corneal ulcer) is described by *Acharyas* under *Krushnagat Rog*.<sup>1,2,3,4</sup> *Savran Shukla* (corneal ulcer) is defined as discontinuation in normal epithelial surface of cornea associated with surrounding corneal tissue.<sup>5,6,7,8</sup>

**Etiology:** There are two main factors in production of *Savran Shukla* (corneal ulcer) **Damage to corneal epithelium -**

- May be due to foreign body, concretions, and misdirected eyelashes.
  - Dryness of cornea as in xerosis or exposure keratitis.
  - Due to corneal edema.
- Infection to eroded area –**
- Exogenous infection - Conjunctival sac, lacrimal sac, infected foreign bodies.

- Ocular tissue – like conjunctiva, sclera and uveal tract.
- Endogenous infection – as cornea is avascular, it is rare.<sup>5,7</sup>

**Pathophysiology:** Once the damaged corneal epithelium is invaded by the offending agents, the pathological changes occurs and development of corneal ulcer progresses as infiltration, active ulceration, regression and cicatrization. This progress of corneal ulcer depends upon the virulence of infecting organisms, host defense mechanism and treatment received. Depending upon these factor *Savran Shukla* (corneal ulcer) may take one or three steps:

- *Savran Shukla* (corneal ulcer) may become localized and heal.
- Penetrate deep leading to corneal perforation.
- Spread fast in whole cornea as sloughing *Savarn Shukla* (corneal ulcer)<sup>5,6,7,8</sup>

#### **Need of research topic:**

In rural population which is working in farms and other places where exposure to pollution, sun light dust and sand particles; workers at fabrication work, workers at sugarcane factories are more prone to *Savran Shukla* (corneal ulcer). Trauma due to foreign body, iron particles during welding work, vegetative trauma at farm causes *Savran Shukla* (corneal ulcer). It was observed that nutritional deficiency is common in this particular population which leads to delayed healing of *Savran Shukla* (corneal ulcer) despite of prescribing proper treatment.

*Triphala Ghrit* is rich in vitamin A as well as it contains linoleic acid. Due to these properties it has anti-inflammatory property as well as helpful to treat xerosis and dry eyes. Dry eye itself is a common cause of *Savran Shukla* (corneal ulcer) and de-

layed healing of *Savran Shukla* (corneal ulcer).

*Acharya* has described the importance of *Triphala Ghrit*. *Ghrit* and *Triphala* both are *Chakshushya* as well as having anti-inflammatory and anti-oxidant property. Hence it was necessary to study the effect of *Abhyantarpan* of *Triphala Ghrit* in treating *Savarn Shukla* (corneal ulcer) and whether it improve the quality of healing by reducing complications which may lead to blindness.

#### **AIM & OBJECTIVES:**

**Aim:** To study comparative results of the effect of *Abhyantarpan* of *Triphala Ghrit* in treating *Savran Shukla* (corneal ulcer).

#### **Objectives:**

1. To study whether it reduces the duration of healing
2. To study whether treatment improve the quality of healing by reducing complications which may lead to blindness.
3. To aware and educate the people to take care to avoid occurrence of *Savran Shukla* (corneal ulcer) and encourage to take proper treatment to avoid complications which may affect vision.

#### **MATERIAL & METHODS:**

##### **Selection of drug:**

Trial drug *Triphala ghrit* was selected for *Abhyantarpan* in patients having *Savran Shukla* (corneal ulcer).

##### **Procurement of Drug:**

*Triphala ghrit* contents are *Aawla* (*Embelia Officinalis*), *Hirda* (*Terminalia Chibula*) and *Behada* (*Terminalia bellerica*). Market preparation of *Triphala ghrit* was preferred.<sup>2,3,4</sup>

#### **RESEARCH DESIGN:**

**Study population:** The study population was selected from patients attending Netra Vibhag of Shalakyta Tantra department of

Seth Sakharam Nemchand Jain Ayurved Hospital, Solapur.

**Sampling:** Sampling was done randomly in each grade.

**Study sample:** Patients having *Savran Shukla* (corneal ulcer) were from Solapur city and its periphery.

**Sample size:** 30 patients having *Savran Shukla* (corneal ulcer) and receiving routine treatment of modern medicine for the same and willing to participate in study were selected for each group i.e. experimental as well as control group. These patient were selected from patients attending Netra Vibhag of Shalakyta Tantra department of Seth Sakharam Nemchand Jain Ayurved Hospital, Solapur.

**Study Setting:** The study was carried at Seth Sakharam Nemchand Jain Ayurved Hospital, Solapur during April 2007 to Dec 2014.

**Diagnostic criteria:** The diagnosis is made by slit-lamp examination. Diagnosis of *Savran Shukla* (corneal ulcer) was confirmed by staining of cornea with vital stains (i.e. fluorescein strips were used for corneal staining). Size and depth of corneal ulcer was documented on case paper. Other detail examination was carried out and documentation was done. Preferably photographs of *Savran Shukla* (corneal ulcer) were taken according to consent of patient. The diagnosis is most often clear clinically.

**Inclusion criteria:** Patients of 20 to 50 years age group, having *Savran Shukla* (corneal ulcer) willing to participate in study were selected.

**Exclusion criteria:**

- Patient having ophthalmic involvement with herpes zoster or herpes simplex.
- Patients having *Adhimanth* (glaucoma) and corneal degeneration and old corneal vascularization.

- *Svarn Shukla* (corneal ulcer) with history of chemical burn.
- Patients suffering from *pothaki, kumbhika* and other *shothjanya vyadhi* of *vartma* (follicles, papillae, giant papillae, concretions).
- Patients having *vathat vartma, kruchonmilan* and *pkshmagat vyadhi* (ptosis, lagophthalmos, entropion and ectropion).
- Contact lens wearer as well as HIV patients were not included for clinical study.
- Patient not following line of treatment and regularity in treatment.

#### TECHNIQUE OF DATA COLLECTION:

The patient having *Savran Shukla* (corneal ulcer) were selected for the study as per inclusive and exclusive criteria. Detail history in particular format was taken with present complaints, visual acuity and other ocular examination is done thoroughly. Patients were examined after every three days or earlier if required as per condition of corneal ulcer up to healing of *Savran Shukla* (corneal ulcer).

Patients of *Savran Shukla* (corneal ulcer) according to size and grade of depth of ulceration were tried to distribute equally in both group. Castro-Viejo caliper was used to measure size of *Savran Shukla* (corneal ulcer).

If any patient do not responds to treatment in stipulated time period, that patient was referred to higher center for the benefit of patient as well as to avoid complications. These patient were not selected in study. After healing *Savran Shukla* (corneal ulcer) patients were thoroughly examined on slit lamp and findings were documented including complication during the course of healing *Savran Shukla* (corneal ulcer).

neal ulcer) like corneal opacity, vascularization of cornea etc.

**TREATMENT & METHODOLOGY SCHEDULE:**

Patients having *Savran Shukla* (corneal ulcer) and receiving routine treatment of modern medicine for the same and willing to participate in study were selected for study. These patients were divided in two groups. i.e. Experimental ( Group A ) and Control group (Group B). According to size and depth of ulcer patient of *Savran Shukla* (corneal ulcer) were tried to distribute equally in both group.

Group A was prescribed routine treatment of modern medicine as well as *Abhyantarpan* of *Triphala Ghrit* was given during the course of healing *Savran Shukla* (corneal ulcer). Milk was advised as *Anupan*.

**Dose of Triphala Ghrit:** 1 table spoon daily in morning with empty stomach.

**Anupan:** Milk (Preferably Cow milk).

**Duration of therapy:** Two to three weeks which may be extended as per healing of *Savran Shukla* (corneal ulcer).

Group B was prescribed only routine treatment of modern medicine during the course of healing *Savran Shukla* (corneal ulcer).

Both groups were advised to use sun goggles to avoid photophobia and protection from pollution, dust and sunlight.

**ASSESSMENT CRITERIA:**

- At the first visit size of *Savran Shukla* (corneal ulcer) was measured for dividing it as per size and depth of ulceration.
- During treatment after every three days size of *Savran Shukla* (corneal ulcer) was measured.
- Depth of *Savran Shukla* (corneal ulcer) was taken in consideration as mild, moderate and severe for dividation as per depth.
- Duration of healing of *Savran Shukla* (corneal ulcer) was taken in consideration to assess the effect of therapy.
- Confirmation of healing of *Savran Shukla* (corneal ulcer) was done by staining of cornea with vital stains (i.e. fluorescein strips were used for corneal staining).

**OBSERVATION & RESULTS:**

Size of <i>Savran Shukla</i> (Corneal ulcer) (in mm)	Grade according to Depth of <i>Savran Shukla</i>	No. of Patient in each group	Group A	Group B	Percentage early healing of Group A over Group B
			No. of days for Healing of <i>Savran Shukla</i>	No. of days for Healing of <i>Savran Shukla</i>	
1*1	Mild	3	5	7	40.00
	Moderate	-	-	-	-
	Severe	1	15	12	-20.00
1*2	Mild	2	5	7	40.00
	Moderate	-	-	-	-
	Severe	-	-	-	-
2*2	Mild	-	-	-	-
	Moderate	5	12	14	16.67

	Severe	-	-	-	-
2*3	Mild	-	-	-	-
	Moderate	2	9	8	-11.11
	Severe	-	-	-	-
2*4	Mild	2	8	11	37.50
	Moderate	3	10	14	40.00
	Severe	3	16	20	25.00
3*3	Mild	-	-	-	-
	Moderate	2	13	17	30.77
	Severe	-	-	-	-
3*4	Mild	3	5	7	40.00
	Moderate	-	-	-	-
	Severe	-	-	-	-
4*4	Mild	1	6	5	-16.67
	Moderate	3	18	24	33.33
	Severe	-	-	-	-
	<b>Total</b>	<b>30</b>	<b>122</b>	<b>143</b>	<b>19.67</b>

Total 30 patient were selected for each group. After study, over all *Savran Shukla* (corneal ulcer) of patients of Group A (experimental group) healed 19.67% earlier than Group B (control group). Except few exceptions, all grades of *Savran Shukla* (corneal ulcer) in Group A (experimental group) healed earlier than Group B (control group).

After above mentioned therapy, it was observed that *Triphala Ghrit Abhyantarpan* promotes healing in *Savran Shukla* (corneal ulcer).

## DISCUSSION

In *Ayurveda* has described characteristics of *Triphala Ghrit*. It is having *Chakshushya* property. It is used in treatment of various *netra rogas*.<sup>1,2,3,4</sup> *Triphala ghrit* is the trial drug used orally along with routine treatment for *Savran Shukla* (corneal ulcer). Its content *Triphala* and *Ghrit* both are having *netrya* property.<sup>2,4</sup> *Ghrith* contains vitamin A, K2 and lionelic acid. It is having anti-inflammatory property and *Triphala* is having antioxidant pro-

perity. This helps in fulfilling the nutritional requirement and treat dryness which promotes healing.

## PROBABLE MODE OF ACTION:

In *Savran Shukla* (corneal ulcer) if patient is having dry eye which is common in low socio-economical and worker group, healing is delayed as newly formed layers of cells are eroded due to friction during blinking. *Triphala* and *ghrit* both are having *Netrya* property. *Ghrit* contains K2 and lionelic acid. It is having anti-inflammatory. *Ghrit* is also rich in vitamin A. Supplementation of Vitamin A reduces and treats dryness which occurs due to its deficiency. Anti-inflammatory and nourishing property reduces corneal edema and promotes regeneration of new epithelial layers. Thus helps in healing and reducing the duration of healing *Savran Shukla* (corneal ulcer).

## CONCLUSION

The clinical study reveals that use of *Triphala ghrit* in treatment of *Savran Shukla* (corneal ulcer) reduces the duration of

healing and promotes healing and helps in avoiding complication.

**LIMITATION:** The study was limited to single geographical area having hot and dry climate. Sample size was very small.

**Recommendation for future research:**

The clinical study was a sincere effort to study the effect of *Tiphala Ghrit* Abhyantarpan in *Savran Shukla* (corneal ulcer). Suggestion related to the study are welcome. As the sample size is small, the study has its own limitations so there is need to study and collect data in bigger sample size.

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