

ORIGINAL RESEARCH ARTICLE

To Study the Efficacy of *Lodhra - Ghrita Aschyotana* in Management of *Sirotpata* with special reference to Hyperaemia of Conjunctiva

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ABSTRACT

These days due to dust pollution and unhygienic conditions, Hyperaemia of Conjunctiva occurs, and it has become commonest most frequently occurring eye disease. It is a custom to treat the patient of Hyperaemia of Conjunctiva with Decongestant and Lubricating eye drops. Though such medications give symptomatic relief in short time period but recurrence is not prohibited as it does not act on root causes so it has been decided to solve out the problem by an *Ayurvedic* line of treatment.

Key Words *Sirotpata*, Hyperaemia of conjunctiva, *Aschyotana*, *Lodhrachuraghrita*

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INTRODUCTION

Eye is the most important among sense organs as eyes are windows to the world. It is organ of visual perception giving view to the colourful world.

Ayurveda is the science of life which has importance in providing not only cure but also prevention of the disease. The eyes are one of the most sensitive and exposed organs in the body. Dust, wind, u.v. rays, pollutants and other such exposure causes various eye disorders. The commonest and much frequent amongst all of them is "HYPERAEMIA OF CONJUNCTIVA".

It is a custom to treat the patient of "Hyperaemia of conjunctiva" with lubricating and decongestant

eye drops. Through such medications give symptomatic relief in short time period but recurrence is not prohibited so it has been decided to solve out problem by an ayurvedic line of treatment.

According to Ayurveda the treatment of *Sirotpata* can be done similar to treatment of *Raktabhishyandya*-

AIM

To study the efficacy of *lodhra - ghrita aschyotana* in management of *sirotpata* with special reference to hyperaemia of conjunctiva

OBJECTIVES

1. To study in details about *Sirotpata* as per *Ayurvedic* literature.

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2. To study the Hyperaemia of conjunctiva as per modern literature.
3. To study the effect of *Lodhra-GhritaAschyotanainSirotpata*.
4. To study etiological factors of Chronic Hyperaemia of Conjunctiva found in present era.

REVIEW OF LITERATURE

AYURVEDIC REVIEW:

SIROTPATA:

It is symptom rather than disease.

The word *Sirotpata* is derived from the root *Sira+utpata*.

Sira means *AkshiSiras*, *Utpata* means 'Upadrava' or Complication of increased *Doshas* in body. Thus *Sirotpata* means *Updrava* or complication of increased *Dosha* in *AkshiSira*.

NIDANA OF SIROTPATA:

Special *Nidanas*-not mentioned.

SamanyaNidana for *NetraRogas* can be considered as the *Nidanas* of *Sirotpata*.

SAMPRAPTI OF SIROTPATA :

The *SamanyaSamprapti* of *NetraRoga* that is explained in classics can be considered as the base to understand the *Samprapti* of *Shirotpata*.

SAMPRAPTI GHATAKA:

Dosha: Tridosha

Dushya: Raktha

Adhistana: Sarvaakshi

Vyaktasthana: Shukla Mandala

Rogamarga: Madhyama

PURVA ROOP:

There is no specific reference of *PoorvaRoopa* of *Sirotpata* in any texts, so we can consider *SamanyaPoorvaRoopa* of *Netraroga* as *PurvaRoopa* of *Sirotpata* here.

VISHESH PURVA POOPA:

No specific *PoorvaRoopa* of the *Sirotpata* is mentioned in classical texts.

ROOPA:

Avedana -without pain

Vaapisavedana -or with pain

Yasyakshirajyo hi -the colour of eye completely

Bhavantitamra -converts into coppery brown

Muhurviraajyanti cha ta -later returning to normal

Samantat-in all sites

VyadhihiSirotpatah -is called disease *Sirotpata*

A/c to *AacharyaVagbhata* when there is blood coloured vessels in *Shuklamandla* with *Daha* (burning sensation) and pain but there is no sign of inflammation, lacrimation or exudates is said to be *Sirotpata*, which is due to *RaktaDushti*.

CHIKITSA OF SIROTPATA:

Sirotpata can be treated in the lines of *RaktajaAbhishyanda* and the treatment of *RaktajaAbhishyandya* given in *Yogratnakara* is *LodrachurnaGhritaAashchyotana* is effective in *RaktajaAbhishyandya* and that's why it can be applied to *Sirotpata* also.

ASCHYOTANA:

ETYMOLOGY OF ASCHYOTANA:

Instillation of few drops of medicines like *Kwatha*, *Kshira*, *Dravya*, or *Sneha* to the open
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eye from a height of two *anguls* is called as *Aschyotana* (A/C to Aacharya Bhavprakasha)

TYPES AND NUMBER OF *DOSHAS* IN *ASCHYOTANA*:

Snehana Aschyotana - 10 drops

Lekhana Aschyotana - 8 drops

Ropana Aschyotana - 12 drops

Dose of *Ropana Aschyotana* is 12 drops, but practically a time more than 2 drops of *Aschyotana* drug cannot remain in conjunctival sac therefore According to IAMJ (International Ayurvedic Medicinal Journal, ISSA No. 2320 5091) *Ropana Aschyotana*-2-3 drops taken.

- Routes of drug administration:

In *Kriyakalpa* mucosal and cutaneous routes are commonly used. Mucous membrane is good absorbing surface.

- Solubility and Bioavailability:

For the drug to be absorbed through mucous membrane and skin, it should be water and lipid soluble. In suspension the drug is present as small particles kept suspended in aqueous medium by dispersing agent.

- Vascularity of Absorbing surface:

The drug absorption is directly proportional to the vascularity of absorbing surface. Increased blood flow is brought about by massage or local application of heat enhances absorption of drug.

HYPERAEMIA OF CONJUNCTIVA:

Definition:

Conjunctival Hyperemia is a medical condition in which the sclera of eyes is characterized by redness due to dilatation of conjunctival and

sometimes also the deep intrascleral vessels OR congestion of conjunctival vessels without being associated with any of the established diseases.

TYPES OF HYPERAEMIA OF CONJUNCTIVA:

On the basis of etiology it can be divided mainly into two parts:

1. Acute or Transient hyperaemia
2. Recurrent or Chronic hyperaemia

Treatment:

In acute transient hyperaemia-

- Prompt relief- removal of irritants (e.g. foreign body, dust or misdirected cilia) gives prompt relief
- Symptomatic relief-may be achieved by use of
 - Tropical decongestant or
 - Naphazoline drops

MATERIALS AND METHODOLOGY

DRUG REVIEW-

The drug having *Rasayana* and *Chakshushya* property might be helpful for treating the disease Hyperaemia of conjunctiva. So, here *Lodhra-Ghrita (Aschyotana)* as per the reference of *Yogratnakara Netraroga Chikitsa Prakarana* has been selected for the present study.

LODHRA-

- Latin name - *Symplococus recemosaroxb.*
- English name - Lodh tree
- Ayurvedic name - *Sthulwalkala*
- *Kula* - *Lodhrakula*
- *Guna* - *Aacharya Charaka-Shonitasthapana, Sandhaniya, Purishasangrahaniya, Kashayskanda,*

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-Aacharya Sushruta- Lodhradi, Nyagrodhadi

GOGHRITA:

The Goghrita is supreme in all Ghritas, it contains special properties like Chakshushya Balya, Rasayana, Vrishya, Agnivardhaka. As it is Chakshushya it is recommended to treat the eye diseases.

PROPERTIES OF GHRITA:

- Latin name - Butyrumdeparatu
- Rasa - Madhura
- Vipaka - Madhura
- Virya - Sheet
- Doshkarma - Vata-pittahara
- Guna - Snighda, Rasashukra, Ojavardhak, Balya, Rasayana, Agnivardhaka, Chakushya, Sarvasnehouttamam
- Rogaghanata - Shosh, Unmad, Jwar, Kshat
- Prabhav - Medhakar, Smrutikar, Swarvarnaprasadkar
- Karma - Medhya, Rasayana, Chakshushya

STANDARDIZATION OF LODHRA-GOGHRITA:

- The Standardization of Goghrita was done by certified laboratory and Final Analysis done which is described below:

- The Physiochemical values of Lodhra-Goghrita are as follows

DRUG REVIEW- CONTROL GROUP:

DECONGESTANT, SOOTHING AND LUBRICATING EYE DROP-

- Manufacture: Calix Life Sciences
- Composition: Camphor 0.01%

W/V +

Menthol 0.005% W/V +

Nephazoline hydrochloride

0.05% W/V+

Phenylephrine 0.012% W/V

+

Sodium carboxymethyl

cellulose 0.025% W/V

METHODOLOGY

Criteria for selection of patients:

Diagnostic Criteria

Patients were diagnosed which were having signs and symptoms of *Sirotpata* given in *Ayurveda* and Hyperaemia of conjunctiva in modern literature

INCLUSION CRITERIA:

- Patients having signs and symptoms of *Sirotpata* were selected.
- Patients having age group of 10-60 years irrespective of their sex, caste etc. were selected.
- Patients with Hyperaemia – due to direct irritants like wind, dust, fumes, smoke, foreign body, exposure to heat, unknown aetiology were included.

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- Hyperaemia of smokers and alcoholics was included.

- Patient willing for treatment was taken.

EXCLUSION CRITERIA-

- Patients of age more than 60yrs and less than 10 yrs were not taken for study.

- Non specific infection of conjunctiva was excluded.

- Reflex hyperaemia due to inflammation of lacrimal passage, lids, nasal cavity was excluded.

- Other ocular or periocular inflamed condition and increased intraocular pressure was excluded.

- Patient having active systemic disease, autoimmune disease, acute respiratory distress or other febrile conditions was excluded.

- Patient who is *Anarhya* for *Aaschyotana* was no selected.

WITHDRAWAL CRITERIA-

- Those who had serious adverse events.

- Patients which were uncooperative.

- Patient who were not willing to continue the trial or to follow the assessment schedule.

- Those who got incidence of intercurrent illness which might interrupt the efficacy of drug.

Grouping and Randomization of patients:30

patients in each group

Group – A

- Drug Name : *Lodhrachurna-GoghritaAschyotanawas* given to this group

- Dose : 2 *Harenu* i.e. 2 drops 2 times a day

- Duration : for 7 days.

Group – B

- Drug Name : Eye drop containing decongestant, soothing and lubricating agents was given to this group.

(Camphor 0.01% W/V +Menthol 0.005% W/V +

Nephazoline hydrochloride 0.05% W/V+

Phenylephrine 0.012% W/V +

Sodium carboxymethyl cellulose 0.025%

W/V)

- Dose :2 drops 3 times a day

- Duration : 7 days.

ASSESSMENT CRITERIA-

- **Subjective Criteria:**

Table 1 Pain / Discomfort

SR. NO.	OBERVATIONS	GRADE
1.	Absent	0
2.	Mild –with no lacrimation	1
3.	Moderate-with lacrimation	2

Above table no. 1 is showing the gradation of pain or discomfort.

Table 2 Burning sensation

SR. NO.	OBERVATIONS	GRADE
1.	Absent	0
2.	Mild –with no lacrimation	1
3.	Moderate-with lacrimation	2

Above table no. 2 Is showing gradation of burning sensation in eye

- **Objective Criteria:**

Table 3 Hyperaemia of bulbar conjunctiva

SR. NO.	OBERVATIONS	GRADE
1.	Absent	0
2.	Only large vessels of bulbar conjunctiva	1
3.	Small vessels of bulbar conjunctiva	2

Above table no. 3 is showing the grading of hyperaemia of conjunctiva in eye.

Table 4 Duration of Hyperaemia conjunctiva:

SR. NO.	OBERVATIONS	GREAD
1.	Absent	0
2.	Transient	1

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3.	continuous	2
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Above table no. 4 is showing grading of duration of hyperaemia of conjunctiva in eye.

FOLLOW UP: 0th, 7th and 14th day of treatment.

OVERALL ASSESSMENT CRITERIA:

- **Complete improvement:** Improvement in subjective as well as objective criteria.
- **Moderate improvement:** Improvement in subjective criteria but not in objective.
- **No improvement:** No improvement in subjective as well as objective criteria

RESULT AND DISCUSSION

OBSERVATIONS ON THE BASIS OF STATISTICAL TECHNIQUE

SUBJECTIVE CRITERIA-

1. Pain or Discomfort-

As the p value is less than the significance level which is 0.05, we should reject the null hypothesis H_0 and accept the alternative hypothesis H_a for pain or discomfort. Which is suggestive of highly significant results for the assessment parameter pain or Discomfort in Group A and Group B as p value ($p < 0.0001$) in rt eye and lf eye.

2. Burning Sensation:

The evaluation of effect of Burning sensation by Wilcoxon-Signed-Rank Test is suggestive of Highly significant results for the assessment parameter pain in Group A and Group B as p value ($p < 0.0001$) in rt eye and lf eye.

OBJECTIVE CRITERIA:

1. Hyperaemia of conjunctiva-

The evaluation of effect of Hyperaemia of bulbar conjunctiva by Wilcoxon-Signed-Rank Test is suggestive of Highly significant results for the assessment parameter Hyperaemia of bulbar conjunctiva in Group A and Group B as p value ($p < 0.0001$) in rt eye and lf eye.

2. Duration of Hyperaemia of bulbar conjunctiva-

The evaluation of effect of Duration of Hyperaemia of bulbar conjunctiva by Wilcoxon-Signed-Rank Test is suggestive of Highly significant results for the assessment parameter Duration of Hyperaemia of bulbar conjunctiva in Group A and Group B as p value ($p < 0.0001$) in rt eye and lf eye.

OVERALL EFFECT OF THERAPIES

Table 5 Overall Assessments

No improvement	3	10.00%	4	13.34%
In <i>Lodhra-GhritaAschyotana</i> (Trial Group)	showing in table no. 5 out of 30 patients, Complete improvement was noted in 17 patients i.e. 56.66 %, Moderate improvement was noted in 10 patients i.e. 33.33 %, No improvement was noted in 3 patients i.e. 10 %.			
In Decongestant, soothing and lubricating eye drops (Control Group)	out of 30 patients, Complete improvement was noted in 7 patients i.e. 23.33 %, Moderate improvement was noted in 19 patient i.e. 63.33 %, and No improvement was noted in 4 patients i.e. 13.34 %.			

RESULTS

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Effect of the *Lodhra-Ghrita* (Trial Group) and Decongestant, soothing and lubricating eye drops (Control Group) on symptoms observed in *Sirotkata* is statistically proved to be significant on subjective criteria and objective criteria separately.

RIGHT EYEN TEMPORAL L SIROTPATA

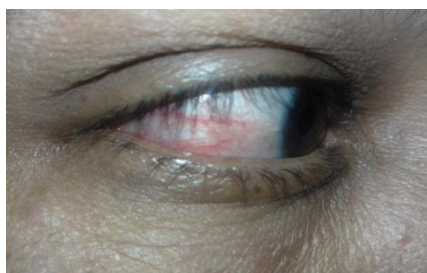


Figure 1 Before treatment



Figure 1 After Treatment

As shown in above figure, figure no. 1 shows the right eye temporal hyperaemia of conjunctiva before treatment and figure no. 2 shows the complete relief from hyperaemia of conjunctiva after treatment of *Llodhra ghruta Ashyotana*.

DISCUSSION

COMPARATIVE ANALYSIS:

Pain or Discomfort:

Right eye: Mean score of difference of (Group A) was 0.92 and that of (Group B) was 0.70 and p value is 0.2217 so, *Lodhra-Ghrita* (Group A) is not statistically significant than Decongestant, soothing and lubricating eye drop.

Left eye: Mean score of difference of (Group A) was 0.87 and that of (Group B) was 0.73 and p value is 0.4935 so, *Lodhra-Ghrita* (Group A) is not statistically significant than Decongestant, soothing and lubricating eye drop.

Burning Sensation:

Right eye: Mean score of difference of (Group A) was 1.03 and that of (Group B) was 0.81 and p value is 0.1901 so, *Lodhra-Ghrita* (Group A) is not statistically significant than Decongestant, soothing and lubricating eye drop.

Left eye: Mean score of difference of (Group A) was 0.87 and that of (Group B) was 0.81 and p value is 0.8022 so, *Lodhra-Ghrita* (Group A) is not statistically significant than Decongestant, soothing and lubricating eye drop.

Hyperaemia of conjunctiva:

Right eye: Mean score of difference of (Group A) was 0.96 and that of (Group B) was 0.70 and p value is 0.1047 so, *Lodhra-Ghrita* (Group A) is not statistically significant than Decongestant, soothing and lubricating eye drop.

Left eye: Mean score of difference of (Group A) was 1.00 and that of (Group B) was 0.61 and p value is 0.0252 so, *Lodhra-Ghrita* (Group A) is statistically significant than Decongestant, soothing and lubricating eye drop.

Duration of Hyperaemia of Bulbar conjunctiva:

Right eye: Mean score of difference of (Group A) was 1.07 and that of (Group B) was 0.62 and p value is 0.0076 so, *Lodhra-Ghrita* (Group A) is highly statistically significant than Decongestant, soothing and lubricating eye drop.

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Left eye: Mean score of difference of (Group A) was 0.95 and that of (Group B) was 0.57 and p value is 0.0252 so, *Lodhra-Ghrita*(Group A) is statistically significant than Decongestant, soothing and lubricating eye drop.

10. Clinical Trial showed very encouraging result.

11. Hence alternate hypothesis accepted i.e. *Lodhra-GhritaAschyotana* is effective in management of *Sirotpata*.

CONCLUSION

1. *Sirotpata* is maximally found in male patients.
2. *Sirotpata* is maximally found in people who are exposed to external environment.
3. *Sirotpata* is predominantly found in young patients.
4. *Sirotpata* is more found in lower and middle class patients.
5. The present study provides the evidence in support of the potential efficacy and safety of *Lodhra- Ghrita Aschyotana* in the treatment of *Sirotpatra*.
6. *Lodhra-Ghrita Aschyotana* was well tolerated by all the patients indicating its safety and scored over decongestant, soothing and lubricating eye drops in relieving symptoms and re-occurrence of *Sirotpata*.
7. Both drugs (*Lodhra Ghrita*) are cheap and easily available.
8. The procedure to make *Lodhra-GhritaAschyotana* and its administration is also easy.
9. Hence *Lodhra-GhritaAschyotana* can be effective solution in the management of *Sirotpata* to promote in rural areas where people do not have easy access to medical care.

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