EFFECT OF INDIANGOOSE COLLYRIUM IN ULCERATIVE BLEPHARITIS

Dr. Sujata Deepak Kate*

MS (Ayurveda), Associate Professor, Yashwant Ayurved Postgraduate Training and Research Center, Kodoli, Sonali Eye Hospital, Kodoli, 416114, Kolhapur, Maharashtra.

*Corresponding Author: Dr. Sujata Deepak Kate
MS (Ayurveda), Associate Professor, Yashwant Ayurved Postgraduate Training and Research Center, Kodoli, Sonali Eye Hospital, Kodoli, 416114, Kolhapur, Maharashtra. Email ID: drsujatakate@gmail.com.

ABSTRACT
In this clinical study total 60 patients were taken which were divided in two groups having 30 patients each wise, the experimental group (I) - treated with Indiangoose collyrium applied two times a day and second the control group (II) - treated with Neosporin H eye ointment and tab Nimesulid 100 mg in same dose. The aim of this study was to study the efficacy of Indiangoose collyrium in Ulcerative Blepharitis and to prescribe comparatively cheap and easily available remedy in public health. The Indiangoose collyrium was prepared in and standardised in pharmaceutical lab. The control group drug was bought from market. Demographic data and clinical data were drawn and the statistical analysis was done by Chi square test. The overall effect of therapy in group I was 70% and that in group II was 80%. The relief percentage in Group II is slightly on higher side. But it was found to be statistically insignificant.

KEYWORDS: Ulcerative blepharitis, Indiangooseberry, collyrium application, effective therapy.

INTRODUCTION
Ayurveda is a science of life. It exists from creation and it is the gift to human being. Science is not a sudden invention. It is a gradual evolution. Ayurveda, as, a science, is also not an exception to it. It is not just a curative medicine, but it also teaches the way to live long a healthy and happy life. The imperishable fundamentals of Ayurveda, which were laid down by the great sages of the olden days, are still applicable because of its eternal scientific background. Such fundamentals must be subjected to scientific research not only to prove its certainty but also to add something new to the existing knowledge. The remarkable strides achieved by man during the days of evolution and his phenomenal growth in unfolding the mysteries of nature relied greatly on his capacity to react to the environment. He succeeded in mastering entire animal world due to this fully evolved sence; among them, eye shares a greater role than the rest.

In Vedic era we find references of eye ailments & their surgeries by famous Ashwinikumar twin & Lord Indra. In Kensutra Atharvaveda we find the description of Collyrium (Anjana).

In Upanishada period we have complete chapters in reference to eyes in the form of Netropanishada & Aranyakopanishad.

Then comes the glorious period of samhitas(Classical texts) when ayurveda attained the status of special branch of science as medical science and special references for the diseases of urdhwanga i.e eye, ear, nose, throat in Ayurveda-shalakya tantra. It is here we find the diseases of eyes described in systematic & chronological order.

Ulcerative blepharitis
- Infective condition
- Causes - varied, often bacterial (staphylococcal) occasionally parasites.
- Clinical features

Signs- oedema of lid.
- Discharge
- yellow crusts glue the lashes together & on removing them small ulcers which bleed easily are , seen around the lashes.

Symptoms- Redness of lid margin
- Itching
- Lacrimation

Ulcerative Blepharitis if not treated energetically, disease becomes extremely chronic.

Complications - chronic conjunctivitis
- madarosis
- trichiasis
- ectropion etc
In Ayurveda, the ancient acharya have advocated the use of local drug for the management of Ulcerative Blepharitis (Klinna vartma).

The patients for this study were selected from the Netra roga OPD of Shalakya tantra. Also, the help from other institutes were taken whenever necessary.

The drug Indian gooseberry (Amalaki) has been selected on the basis of the reference in Sushruta classical text. Indian gooseberry (Amalaki) in Ayurveda is highly promoted as removing inflammation & secretions. The present study is a stride ahead in the field of Ayurveda-Shalakya to establish on disease of inflammatory conditions of anterior segment for the clinical study.

Any inflammation of anterior structures of eye, if not treated can cause severe hazards to visual activity. So it is very important to diagnose such conditions in early stage and treat properly. Modern medicines like antibiotics and anti-inflammatory drugs fail to cure Blepharitis completely.

**Collyrium**

Collyrium has special importance in healthy person as well as in eye diseases.

Application of different medicines to the eye is known as Collyrium.

Application of collyrium is suitable for the person whose body has been purified and the disease is localized in the eyes only, when signs of fully ripened state such as slight oedema, severe itching and sliminess are found, when the excretions of the eye are thick.

**Method of application of Collyrium**

Anjana can be applied in supine or sitting position. Eyelids are retracted with left hand, while with the help of right hand collyrium applicator (shalaka) is moved from inner canthus to outer canthus. The collyrium is applied as per need. Use index finger whenever collyrium is used only on eyelids. After the application of collyrium, close the eyelids and eyeball is rotated.

This drug had not been studied anywhere in India, in any institution till today. That is why it encouraged me to know its efficacy as other drugs have been found to be effective in the earlier work taken else where.
MATERIALS AND METHODS

Materials
Drug Information
Botanical information of Indian Gooseberry (Amalaki)

Latin name :- Emblica Officinalis.

Family :- Euphorbiaceae

Classical Name :- Amalaki, Dhatri.

Sanskrit Name :- Amalaki, Dhatri, Vayastha, Shripaha, Kayastha, Sheeta, Vrushya.

English Name :- Emblic Myrobalan Indian Gooseberry

Regional Names :- Anwla, Amla, Aonla (Hindi) Amla, Amalaki (Beng.), Anvla (Mar, Guj.), Usharinki (Tel.) Amlaj, Amla (peors) Embilcmyrobalan Indian Gooseberry (English)

Chemical composition
Fruits is a rich source of vitamin C. Seeds contain fixed oil, phosphatides and an essential oil. Fruit, leaves and bark are rich in tannin. Fruits contain gallic acid, tannic acid, resinous matter, glucose, albumin, cellulose and mineral specially calcium, other than good content of vitamin c and other substances.

Contra-indications: Don't use Indian goose at night as they weaken the tooth, also leads to pharyngitis.

Therapeutic uses
It is useful as nerveine-brain tonic, anti-inflammatory, laxative, refrigerant.

It is used in eye inflammation as eye drops of fresh juice. Generally the dried fruits are put in water for a night and the eyes are washed with this water.

Digestive system : Improve appetite, antacid, curative, improve taste.

Circulatory system : Cardiac tonic, haemostatic.

Respiratory syste : Reduces cough used in asthma, tuberculosis.

Urinary system : Useful in diabetes as it is a diuretic.

Reproductive system : It helps in conception.

Temperature : Antipyretic.

Skin : In skin diseases, erysipelas.

Ayurvedic formulations: Chyawan prash, Triphala Churna, Amalaki ghrita, Dhatri Leha, Amalaki Rasayana, Dhatriholo, Brahmarasayan, Amrutprash.

Dosage - Powder -3-6 gm.
Fruit juice -12 ml.

MODERN DRUG REVIEW

Neosporin H eye ointment
Contents - Polymyxin-B 5000 units
Bacitracin 400 units
Neomycin 3400 units
Hydrocortisone 10 mg.

Tab Nimesulid
It is non steroidal anti inflammatory drug.

Group
Preferential Cox-2 Inhibitor

Action
- Relatively weak inhibitor of PG synthesis
- Anti inflammatory action may be exerted by other mechanisms as well, eg. reduced generation of superoxide by neutrophils inhibition of PAF synthesis and TNF α.

Release free radical scavanging inhibition of metalloproteinase activity in cartilage.

Uses - Primarily in short lasting painful inflammatory conditions.

Absorption - Orally

Excretion - Urine, t ½ 2-5 hrs

Dose - 100 mg BD

Adverse effect-
- Gasrtointestinal-epi gastralgia, heartburn, nausea, loose motions.
- Dermatological
- CNS etc.

Blepharitis
Blepharitis is a generalized term that refers to inflammation of the eyelid margins and associated eyelash follicles, apocrine & meibomian glands. It can be broadly categorized into staphylococcal blepharitis affecting the anterior lid margin and meibomian gland dysfunction affecting the posterior lid margin. Blepharitis also causes secondary changes in the ocular surface including the tear film. Despite being commonly present, it is often overlooked in daily ophthalmic practice. There exist many lacunae in understanding of pathogenesis, which coupled with a chronic waxing & waning disease course & poor patient compliance due to a protracted treatment regimen, make them a group of disorders frustrating to patient and physician.

Definition of Blepharitis
The term Blepharitis consists of two words ‘Blepharon’ and ‘itis’. ‘Blepharon’ (a Greek word) means eyelid and ‘itis’ means inflammation. It is also called palpebritis. Blepharitis is a sub-acute or chronic inflammation of the eyelid margin.
**Ulcerative blepharitis**

**Etiology**

As eyelid being the most exposed part of the eye distributed with cilia, it is more prone to get infected or injured.

**Non specific causes of Blepharitis**

- External irritants like smoke, dust, wind, cosmetics, smog, chemical fumes and atmospheric pollution.
- Unhygienic conditions like rubbing eyes with dirty handkerchiefs and solid fingers.
- Eyestrain due to refractive error or accommodative strain.
- Constitutional factors like:
  - a) Nature of skin e.g. tendency to seborrhea
  - b) Metabolic disturbances: e.g. excessive carbohydrate diet.
  - c) Toxic factors: e.g. alimentary auto-intoxication and septic focus.
  - d) Allergic factors – e.g. eczematous condition of skin.
  - e) Lice infestation in the eyelashes.

**Medical Conditions Leading To Blepharitis:**

Ocular diseases such as dry eye syndrome, chalazion, trichiasis, conjunctivitis and keratitis lead to blepharitis. Other common causes are Rosacea, seborrhic dermatitis, herpes simplex, dermatis, varicella – zoster dermatitis, contact dermatitis, molluscum contagiosum.

**Epidemiology**

- Incidence is 1.8/1000/year but the true prevalence is unknown.
- It accounts for 45% of all ophthalmologic problems.

**Pathophysiology**

Ulcerative Blepharitis is a chronic staphylococcal infection of the lid margin usually caused by coagulase positive strains. It is caused by excess oil production in the meibomian gland, near the eyelid which creates a favourable environment for bacterial growth. These oil and other products normally secreted by the eye and the skin build up on the lid surface and the eyelashes causing debris. This results in symptoms like eye irritation. In some cases bacterial infection develops in the debris exacerbating the condition.

**Clinical Features**

Blepharitis refers to inflammatory disease processes of the eyelid presenting with the features of –

- Eye irritation
- Watering from eyes
- Crusting and matting of the lashes
- Falling of eyelashes
- Mild photophobia
- Pain in eyes
- Burning sensation
- Foreign body sensation i.e. itching sensation
- Swelling over lid margins

**Differential Diagnosis of Blepharitis**

There are a number of other conditions which can produce symptoms similar to these of Blepharitis, which need to be considered for differential diagnosis.

- a) Bacterial Conjunctivitis
- b) Molluscum contagiosum
- c) Herpes simplex
- d) Basal cell carcinoma
- e) Cellulitis
- f) Contact lens problems
- g) Dry eye syndrome
- h) Keratoconjunctivitis
- i) Trichiasis
- j) Stye
- h) Chalazion

**Diagnosis**

This is made on examination of the lids.

- * Lid skin – This may be slightly inflamed
- * Lashes – Loss frequently occur in anterior disease and occasionally happen in long standing posterior disease.
- * Scales – Hard scales seen in staphylococcal disease.
- * Lid margin – Found inflamed
- * Tear film – This is frequently deficient in most forms of the disease.
- * Conjunctiva – It may be injected associated conjunctivitis may be present.

**ASSOCIATED DISEASES**

Blepharitis may occur on its own or in association with following diseases.

- Hordeolum or stye
- Chalazion
- Bacterial Conjunctivitis
- Molluscum contagiosum
- Herpes Simplex
- Basal cell carcinoma
- Cellulitis
- Contact lens problems
- Dry eye syndrome
- Kerato-conjunctivitis
- Trichiasis
- Bacterial infections e.g. impetigo, erysipelas
- Viral infections e.g. molluscum contagiosum, varicella zoster, papilloma virus.
- Immune disease e.g. erythema multiforme, pemphigoid, connective tissue disorders.
- Dermatoses e.g. psoriasis, ichthyosis, erythroderma
- Benign eyelid tumours e.g. actinic keratosis, haemangioma, pyogenic granuloma
- Malignant eyelid tumours e.g. BCC, SCC melanoma
- Trauma e.g. chemical, thermal, surgical

**METHODS**

For the clinical study “Effect of Indiangoose collyrium in Ulcerative Blepharitis “, following materials and methods were used:
A) Materials of study

1. Patient
2. Indiangoose collyrium
3. Neosporin H eye ointment & Tab Nimesulide 100 mg
4. Distilled water
5. Soda-bi carb solution
6. Slit lamp biomicroscope
7. Torch
8. Snellen’s distant vision chart
9. Autorefratometer

1) Patient
Patients were selected by following criteria.

Inclusion Criteria
1) Age group 10yrs to 50 yrs. irrespective of sex, educational status, socioeconomical status, marital status caste etc.
2) Patients having symptoms of Ulcerative Blepharitis.
3) Only affected eye will be considered suffering from Ulcerative Blepharitis.
4) Patients ready for drug trial and will be given idea of the project before giving drug trial.
5) Patient of either sex.

Exclusion Criteria
1) Patients having eyelid diseases other than Ulcerative Blepharitis like Stye, Chalazion, Lagophthalmus, Trachoma etc.
2) Patients of posterior Blepharitis.
3) Patients having major eye problems like corneal ulcer etc.
4) Any malignant condition of eye & eyelid.
5) Patients suffering from infectious / contagious diseases.
6) Patients having systemic diseases e.g. Diabetes mellitus, Hypertension, Autoimmune diseases etc.

2) Indiangoose collyrium
The raw material i.e. fruits are purchased from authorized Ayurvedic drug seller.

Material for preparation of Indiangoose collyrium
1) Indiangoose crude powder – 1 part 2) Water – 16 parts.

Other
LPG stove, stainless steel container, spoon, cotton cloth, measuring cylinder, weighing machine etc. equipments.

Method of preparation of Indiangoose collyrium
Indiangoose collyrium was prepared according to classical texts (Rasakriya siddhi described by Sharanghar Samhita Madhyam Khanda).

1 part Indiangoose crude powder and 16 part of water was taken and mixed and kept over night. Then on the next morning this mixture was boiled on low flame until 1/8 part remains behind. Then this prepared decoction was cooled up to room temperature. Then was filtered through fine cotton cloth.

The filtered decoction was again boiled on the same flame until the water gets evaporated. Then semisolid i.e. Ghansar was obtained. This semisolid was dried and suppositories (varities) made and were dried.

Then dried suppositories (varities) were stored in a dry container. These suppositories (varities) were used for collyrium in patients of ulcerative blepharitis.

*Colour - Blackish Brown
*Form - Semi Solid
*Taste - bitter, sour
Ash Value - 4.56%
3) Neosporin H eye ointment and Tab Nimesulid
The patients of control group were treated with application of Neosporin H eye ointment & Tab Nimesulid 100mg.

4) Distilled water
This was used for lavigation of the Dhatryanjana while applying the Anjana.

5) Slit lamp biomicroscope
This was used for detail ocular examination.

6) Torch
This was used for gross ocular examination.

7) Snellen’s distant vision chart
This was used for testing patient’s vision.

8) Autorefractometer
This was used for giving refraction to patients.

B) Method of study
Patients suffering from ulcerative blepharitis were examined and only those qualifying for the selection criteria were selected for the clinical trial. They were explained the objectives and methodology along with the benefits and disadvantages of the trial and after showing the patient’s information sheet, those interested were involved in the study.

1) Written consent
First of all, written consent was obtained from the patient or his/her legal guardian.

2) History and Examination
Patients were asked for detailed history of any ocular disorder or previous illness, socioeconomic status, occupation, dietary habits etc.

The patients were diagnosed on the basis of signs and symptoms of Blepharitis and clinical examination. Systemic examination of each patient was done thoroughly to find out any systemic disorder.

Detailed ophthalmic examination was done to rule out any other ocular disease. Local examination of eyelashes, eyelids, conjunctiva, cornea, pupil, lacrimal apparatus etc. was carefully done and recorded in the prescribed proforma. Visual acuity was also tested and refractive correction given as per requirement.

3) Division of patient in experimental and control group
Patients were randomly allotted to experimental and control group. Total 30 patients were included in each group. Before starting the treatment the eyelid margin of each patient of both groups were cleaned with soda bi carb solution. Patients included in experimental group were treated with Indiangoose collyrium and those included in control group were treated with Neosporin H eye ointment twice daily for 21 days also Tab Nimesulid 100mg BD for 7 days. Special instructions were given about maintenance of eyelid hygiene.

4) Record of observation and parameters
Observational parameters were recorded on 1st, 7th, 14th and 21st day. The signs and symptoms were assessed by adopting suitable scoring method at each follow up.

Parameters & Assessment
Mild pain
Subjective phenomenon, to be considered as per patient.

Itching
Subjective phenomenon, to be considered as per patient

Discharge
According to the wetting of the Schirmer paper
Grade 0 - <7 mm
Grade I (+) - 7 to 10 mm
Grade II (++) - 10 to 15 mm
Grade III (+++) - >15 mm

Ulcers at lid margins – depending on the involvement of the lid
Grade 0 - No ulcers
Grade I (+) - <25% of the lids margin are involved
Grade II (++) - 25-50% of the lids margin are involved
Grade III (+++) - 50-75% of the lids margin are involved
Grade IV (++++) - >75% of the lids margin are involved

lid oedema
Grade 0 - No oedema
Grade I (+) - Localized oedema
Grade II (++) - Single lid involvement
Grade III (+++) - Both lids involvement

Gradation of signs & symptoms
Gradation is made according to severity of signs and symptoms.
0 Normal - If patient will not get pain, itching, swelling, watering.
1+ Mild - If patient has got Mild pain, itching, swelling, watering.
2+ Moderate - If patient has got Moderate pain, itching, swelling, watering.
3+ Severe - If patient has not got relief from pain, itching, swelling, watering.

RESULT
I) Ineffective : No relief
II) Slightly effective : <25% relief
III) Moderately effective : 26-50% relief
IV) Effective : 51-75% relief
V) Very effective : >75% relief

6) Application of Indiangoose collyrium
For the patients of experimental group Indiangoose collyrium was applied for 21 days (twice daily). Only 1st
day, 7th, 14th and 21st day Anjana was applied by research scholar, rest of days it was done by patient himself.

**Method of collyrium application**

* Patient was asked to sit in a room having less airflow.
* **Indiangoose collyrium** was lavagated in a drop of distilled water.
* Patient was asked to open his eyes and the drug was applied from inner canthus upto outer canthus at the eyelid margin with the help of index finger.
* Then patient was asked to close the eyes and rotate the eyeballs. After that he was asked to blink the eyes slowly.
* After this eyes were cleaned with cotton swab.
* The patient was instructed to do the same procedure twice daily at home.

**Instructions to the patients**

1) To pay attention towards the eyelid hygiene.
2) To wash the hands with antiseptic solution before applying collyrium.
3) To report if any adverse symptom appears.
4) To come for follow up on 7th, 14th and 21st day.

**OBSERVATIONS AND RESULTS**

The present study is based on 60 cases divided in two groups (group I and group II) 30 in each group.

They were registered in college O.P.D. and completed the study. For this more than 60 patients were registered. The present study is based on the patients who came for regular follow-up and completed study satisfactorily. So the demographic and clinical data is based on 60 patients.

(A) **DEMOGRAPHIC PROFILE**

The demographic data of 60 patients of ulceraive Blepharitis was collected and grouped on the bases of age, sex, religion, marital status, socio-economic status. There was only one patient from other religion in Group II due to the predominance of Hindu religion in this area.

1. General feature wise distribution of 60 patients.

<table>
<thead>
<tr>
<th>Signs &amp; symptoms</th>
<th>Trail Gr</th>
<th>Control Gr</th>
<th>Total</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Mild pain</td>
<td>29</td>
<td>30</td>
<td>59</td>
<td>98.33</td>
</tr>
<tr>
<td>2 Itching</td>
<td>26</td>
<td>27</td>
<td>53</td>
<td>88.33</td>
</tr>
<tr>
<td>3 Odema</td>
<td>20</td>
<td>18</td>
<td>38</td>
<td>63.33</td>
</tr>
<tr>
<td>4 Ulcers</td>
<td>26</td>
<td>27</td>
<td>53</td>
<td>88.33</td>
</tr>
<tr>
<td>5 Discharge</td>
<td>20</td>
<td>21</td>
<td>41</td>
<td>68.33</td>
</tr>
</tbody>
</table>

B) **Clinical Profile**

The clinical data presented here is based on 60 patients 30 in Group – I and 30 in Group- II. Patients suffering from above signs & symptoms.

Graph no. 1- Distribution according to signs & symptoms

Graph no. 2- Patients suffering from Mild pain

Graph no. 3 - Patients suffering from Itching
Graph no. 4 - Patients suffering from *Odema*.

Graph No. 5 - Patient suffering from *Ulcer*.

**Effect of treatment**

1. Alparuja

**Table no. 2 - Effect of treatment on 21st day.**

<table>
<thead>
<tr>
<th>Groups</th>
<th>Relief</th>
<th>No-relief</th>
<th>Total</th>
<th>Relief %</th>
<th>$\chi^2$</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gr. – I</td>
<td>24</td>
<td>5</td>
<td>29</td>
<td>82.75</td>
<td>0.003</td>
<td>&gt;0.05</td>
</tr>
<tr>
<td>Gr. – II</td>
<td>26</td>
<td>4</td>
<td>30</td>
<td>86.66</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

On 21st day 82.75% patients got relief in Trial group and 86.66% patients got relief in Control group.

**Graph No. 7 -- Effect of treatment on 21st day.**
2. Itching

Table no. 3- Effect of treatment on 21st day.

<table>
<thead>
<tr>
<th>Groups</th>
<th>Relief</th>
<th>No-relief</th>
<th>Total</th>
<th>Relief %</th>
<th>$\chi^2$</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gr. – I</td>
<td>23</td>
<td>3</td>
<td>26</td>
<td>88.5</td>
<td>0.002</td>
<td>&gt;0.05</td>
</tr>
<tr>
<td>Gr. – II</td>
<td>25</td>
<td>2</td>
<td>27</td>
<td>92.6</td>
<td>&gt;0.05</td>
<td></td>
</tr>
</tbody>
</table>

On 21st day 88.5% patients got relief in Trial group and 92.6% patients got relief in Control group.

Graph no. 8 Effect of treatment on 21st day.

3. Odema

Table no. 4- Effect of treatment on 21st day.

<table>
<thead>
<tr>
<th>Groups</th>
<th>Relief</th>
<th>Non-relief</th>
<th>Total</th>
<th>Relief %</th>
<th>$\chi^2$</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gr. – I</td>
<td>18</td>
<td>2</td>
<td>20</td>
<td>90</td>
<td>0.42</td>
<td>&gt;0.05</td>
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<tr>
<td>Gr. – II</td>
<td>18</td>
<td>0</td>
<td>18</td>
<td>100</td>
<td></td>
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</tbody>
</table>

Graph No. 9-Effect of treatment on 21st day

4. Ulcer

Table no. 5- Effect of treatment on 21st day/

<table>
<thead>
<tr>
<th>Groups</th>
<th>Relief</th>
<th>Non-relief</th>
<th>Total</th>
<th>Relief %</th>
<th>$\chi^2$</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gr. – I</td>
<td>23</td>
<td>3</td>
<td>26</td>
<td>88.5</td>
<td>0.31</td>
<td>&gt;0.05</td>
</tr>
<tr>
<td>Gr. – II</td>
<td>26</td>
<td>1</td>
<td>27</td>
<td>96.3</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
On 21st day 88.5% patients got relief in Trial group and 96.3% patients got relief in Control group

Graph No.10: Effect of treatment on 21st day.

1. Discharge

Table no 6- Effect of treatment on 21st day.

<table>
<thead>
<tr>
<th>Groups</th>
<th>Relief</th>
<th>Non-relief</th>
<th>Total</th>
<th>Relief %</th>
<th>$x^2$</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gr. – I</td>
<td>17</td>
<td>3</td>
<td>20</td>
<td>85</td>
<td>0.003</td>
<td>&gt;0.05</td>
</tr>
<tr>
<td>Gr. – II</td>
<td>19</td>
<td>2</td>
<td>21</td>
<td>90.5</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

On 21st day 85% patients got relief in Trial group and 90.5% patients got relief in Control

GraphNo.11 - Effect of treatment on 21st day

Table no. 7: Overall effect of treatment on both groups.

<table>
<thead>
<tr>
<th>Group</th>
<th>Relieved</th>
<th>Not Relieved</th>
<th>Total</th>
<th>$x^2$</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trial Group</td>
<td>22</td>
<td>8</td>
<td>30</td>
<td>0.37</td>
<td>&gt;0.05</td>
</tr>
<tr>
<td>Control Group</td>
<td>24</td>
<td>6</td>
<td>30</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>46</td>
<td>14</td>
<td>60</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
DISCUSSION

Ayurveda is a science of life. It is crystal clear in all aspects. Acharyas have already clearly stated that whatever is written is open for further enrichment by the person who knows about the subject. Shalakyatantra though doesn’t seem to be fully explored, but writing of Acharyas have laid the foundation in all its aspects.

To explore all the possibilities which create a problem and then to analyze the fact so obtained and drive the fact which can eradicate the problem. This whole process is called as discussion.

Ulcerative Blepharitis is a sub-acute or chronic inflammation of eyelid margin, occurring at all ages. The patients often present with ulcers at lid margin, swelling, itching sensation, watering, redness of eyes, pain etc.

The etiopathogenesis of Blepharitis is believed to be multifactorial usually has a staphylococcus component. Additional factors such as pollution, poor hygiene, malnutrition, eyestrain due to refractive error and even stress can exacerbate the condition.

The pathophysiology of the disease is said to be due to excessive secretion containing abnormal neural lipids by glands of zeis. These secretions are split into irritating fatty acids which further form debris at the base of lashes resulting into closing of gland openings, decreasing secretions into the eye.

Various treatment modalities available include local measures like antibiotic drops or ointment and steroid eye ointment. As Blepharitis is chronic disease inspite of frequent application of ointment, it does lead to permanent cure of the disease. Long term use of steroids may cause adverse effects and disturbs the ocular health. So one has to think for an alternative and permanent remedy. The numbers of patients of Blepharitis are in alarming figures. So it was decided to select this topic.

Sushruta the father of surgery mentioned various local applications especially collyrium for the treatment of Ulcerative Blepharitis. Rasakriya (semisolid) form is a concentrated form of Indiangooseberry. So it was proposed to use in ulcerative blepharitis.

After thorough history and examination, the diagnosis was confirmed and the patients who were ready for trial were included in study after taking hence written consent. The patients below 10 years of age were excluded, the reason being their inability to co-operate. Also patients above 50 years of age were not included in the trial due to less prevalence of the disease among them.

The patients with major ocular pathologies were excluded so as to avoid further complications. The patients having systemic diseases like DM, HTN were excluded because of the possibility of their interference with the treatment.

Sixty patients were taken for the study and randomly divided into 2 groups, experimental group and control group. The eyelid margin of each patient of both groups was cleaned with soda bi carb solution before starting treatment. After the experimental group was treated with Indiangooseberry collyrium and control group with Neosporin H eye ointment twice daily upto 3 weeks & tab Nimesulid 100 mg twice daily for 7 days with weekly follow up.

The parameters of blepharitis were statistically analyzed, significance of difference between both groups were assessed by applying Chi-square test.

We have done our study in two Gr.I (Trial group) which was treated with application of Indiangooseberry collyrium and Gr-II (Control group) which was treated with Neosporin H eye ointment and Tab Nimesulid 100 mg b.i.d..
Mode of Action of Drug
Indiangoose collyrum

Indiangooseberry is already known for its anti-inflammatory and antibacterial properties. It arrest the main pathology of blepharitis i.e. inflammation of lids. Once the inflammation reduces, the abnormal secretions of glands get normalized which prevent collection of debris at the base of lashes i.e. scaling and ultimately itching sensation reduces.

The efficacy of application of Indiangooseberry collyrum in treating ulcerative blepharitis found to be nearly same as application of Neosporin H eye ointment and tab. Nimesulid. There was slightly less % relief with application of Indiangooseberry collyrum than Neasporin H eye ointment, which was statistically insignificant.

On 21<sup>st</sup> day of treatment the % of relief from mild pain was found in 82.75% patients in trial group where as in control group it was found in 86.66% patients. Relief % in patients of itching on 21<sup>st</sup> day was 88.5% with trial group while with control group it was 92.6%.

Relief % in patients of ulcer on 21<sup>st</sup> day was 88.5% with trial group while with control group it was 96.3%.

On 21<sup>st</sup> day of treatment the discharge was reduced to 85% in patients of trial group and 90.5% in control group.

By statistical analysis Indiangooseberry collyrum is effective in ulcerative blepharitis, it is proved to be cost effective safe and easily available remedy in ulcerative blepharitis. There was slight difference in % of relief but it was statistically significant. There was no side effect of application although patients told that there was irritation of eye and then after watering there is cooling effect. Also there was no recurrence of cases.

SUMMARY

The study was aimed to assess the efficacy of Indiangoose collyrum application in Ulcerative blepharitis. It is divided in seven sections viz.

Introduction, Aims and objects, Literary Study – Ayurveda, Literary study, Modern, Materials and Methods, Observations and Results, Discussion and the present section dealing with Summary and Conclusion.

Multifactorial etiology, chronicity and recurrence of the disease, ignorance of patient and non availability of the effective treatment are the main hurdles in management of Blepharitis.

This study was aimed to assess the efficacy of Indiangoose collyrum application in management of Ulcerative blepharitis.

60 patients were randomly selected and divided into experimental and control group each having 30 patients.

Experimental group was treated with Indiangoose collyrum application and control group with Neasporin H eye ointment twice daily for 21 days and Tab Nimesulid 100 mg twice daily for 7 days with weekly follow up. Special instructions about maintenance of lid hygiene were given to each patient.

Prevalence of Ulcerative Blepharitis was found more in 41-50 years age groups, mostly in male, farmer, patients of poor socioeconomic class, those residing in rural area.

To analyze the results of both the groups chi-square test was applied and comparison of results of both groups was assessed by applying the same test at 5% significance level.

It showed that all signs & symptoms are very effectively reduced in both the groups. Comparison of both treatments showed that treatment of experimental group was slightly less effective than that of control group.

The overall effect of therapy in group I was 70% and that in group II was 80%. The relief percentage in Group II is slightly on higher side. But it was found to be statistically insignificant.

CONCLUSION

1) Collyrum is a simple procedure and can be practiced even at OPD levels.
2) By statistical analysis it was concluded that Indiangoose collyrum application is effective in ulcerative blepharitis.
3) Indiangoose collyrum is proved to be cost effective, safe and easily available remedy in ulcerative blepharitis.
4) There was slight difference in percentage of relief but it was statistically insignificant.
5) No any adverse effect or allergy with Indiangoose collyrum was found during the course of study so this can be an alternative treatment of choice in day to day practice.

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