Clinical Research

Effect of Rasanjana Madhu Ashchyotana in Netra Abhishyanda (Mucopurulent Conjunctivitis)

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Abstract

To evaluate the comparative efficacy of Ayurvedic formulation a Rasanjana Madhu (RM) eye drops and Honey Rose (HR) water eye drops in Netra Abhishyanda in mucopurulent conjunctivitis, the current study is planned. Total of 35 patients attending the outpatient department of Shalakya Tantra at R. G. G. Postgraduate Ayurvedic College, Paprola, Distt. Kangra, Himachal Pradesh with characteristic features of Netra Abhishyanda were selected for the present study. Twenty patients were given trial drug, i.e., RM eye drops, while 15 patients were given HR eye drops. Random sampling technique was adopted for the present study. The duration of the treatment was 7 days with 1 week follow-up. Patients receiving the trial group demonstrated reduction of redness, burning sensation, lacrimation, photophobia, foreign body sensation, discharge, and congestion, which were statistically significant with 93% patients cured or markedly improved category. Signs and symptoms stated above were also statistically reduced with HR eye drops, probably because of well-documented hygroscopic and bacteriocidal properties of honey. Based on the study, it can be concluded that, RM eye drops are very effective in the management of Netra Abhishyanda viz. Infective conjunctivitis.

Key words: Abhishyanda, infective conjunctivitis, Rasanjana Madhu eye drops, rose water eye drops

Introduction

Abhishyanda or Netra Abhishyanda is classified as the eye disease affecting all parts of the eye. The gravity of Abhishyanda is such that it is often said to be the cause of all eye disorders.¹ Adhimantha (Acute congestive glaucoma/Acute uveitis), an eye disease has direct origin from Abhishyanda if not treated properly or neglected. To avoid such complications, Acharya Sushruta has stressed on the importance of immediate need of treatment in this disease. Acharya Sushruta has enumerated it under communicable diseases.²

The word Abhishyanda is derived from two words viz. “Abhi” and “Syandana.” “Abhi” means profuse or more and “Syandana” means discharge or secretion, combined meaning is profuse discharge from all parts of eye. The disease Abhishyanda is a Sarvagata Netra Roga, which means it affects all parts of the eye.³ In modern ophthalmology, it stays compatible with conjunctivitis. Rag and Lohit Netrata (conjunctival congestion), Sangharsh (foreign body [FB] sensation), Nistoda (pricking sensation), Daha (burning sensation), and Paka (severe inflammation), often accompanied with mucopurulent or purulent discharge, are the important signs and symptoms of conjunctivitis. In this disease, conjunctiva becomes inflamed, reddish, mostly found in summer season and affecting poor patients predominantly.⁴ Even though the conjunctivitis may manifest in various forms, in the present study, we have included only mucopurulent conjunctivitis. The management of this condition is based on various measures like Aschyotana (eye drops), Putapaka (lubrication), ointment, etc., carried out with the help of different medicinal plants according to demand with respect to the predominance of various etiological factors. Sushruta has enumerated 167 types of herbs for the management of different ocular diseases. Among these medicines, we have selected Rasanjana (extract of Berberis aristata) in Honey base and coined it as Rasanjana-Madhu (RM) eye drop as a trial drug. It is carried out in OPD of PG. Department of Shalakya Tantra, Rajiv Gandhi Govt. Post Graduate Ayurvedic College and Hospital, Paprola, District Kangra, Himachal Pradesh. Honey Rose (HR) water drops are taken as control drug for comparison.

Lot of literature is available for the treatment of Netra...
Abhishyanda with herbal formulation in the form of Parisheka (irrigation), Ashchyotana (eye drop),[6] and Anjana (collyrium) forms.[7] Among these, Rasanjana (Extract of Berberis aristata) is the most widely advocated.

In view of the magnitude of the problem, the discomfort it causes to the patients and the cost of the treatment, there is need to develop a therapy which is free from side effects, cheaper, and has a significant effect in alleviating the symptoms of the patients. This study is an attempt in this direction to evaluate the effects of an Ayurvedic medicine on mucopurulent conjunctivitis.

Materials and Methods

Patients attending the outpatient department of Shalaka Tantra at hospital, attached with Rajiv Gandhi Govt. Post Graduate Ayurvedic College, Paprola, Distt. Kangra, with characteristic features of Netra Abhishyanda were selected for the present study. The due permission of ethics committee was taken prior to the study. Total 35 patients of mucopurulent conjunctivitis were selected, irrespective of age, caste, creed, race, and religion.

Inclusion criteria
All patients presenting with signs and symptoms of Netra Abhishyanda (mucopurulent conjunctivitis) were taken into this study irrespective of age, gender, caste, religion, etc.

Exclusion criteria
i. Keratoconjunctivitis.
ii. Cases complicated with dacryocystitis.
iii. Allergic conjunctivitis.
iv. Trachoma.
v. Patient suffering from other specific conjunctival or systemic diseases.

Diagnostic phase
Patients were diagnosed on the basis of signs and symptoms of Netra Abhishyanda assisted with investigations and findings. All the patients selected for trial were explained the nature of the study and their written informed consent was obtained.

Criteria of assessment adopted for present study

| Symptom                  | 1 | 2 | 3 |
|--------------------------|---|---|---|
| Redness                  | 0 | 1 | 2 |
| Burning sensation        | 0 | 1 | 2 |
| Lacrimation              | 0 | 1 | 2 |
| Photophobia              | 0 | 1 | 2 |
| Foreign body sensation   | 0 | 1 | 2 |
| Edema                    | 0 | 1 | 2 |
| Mucopurulent discharge   | 0 | 1 | 2 |
| Conjunctival hypertrophy | 0 | 1 | 2 |

Clinical assessment
The signs and symptoms were assessed by adopting suitable scoring method. The details are as follows:

1. Redness
   - No Redness: 0
   - Palpebral conjunctival congestion: 1
   - Bulbar conjunctival congestion: 2
   - Both palpebral and bulbar conjunctival congestion: 3

2. Burning sensation
   - No burning sensation: 0
   - Burning sensation on exposure to sunlight: 1
   - Intermittent burning sensation: 2
   - Continuous burning sensation: 3

3. Lacrimation
   - No srava: 0
   - Occasional srava (on exposure to sunlight): 1
   - Continuous srava affecting routine work: 2
   - Very severe: 3

4. Photophobia
   - No photophobia: 0
   - Photophobia only during exposure to sunlight: 1
   - Intermittent photophobia: 2
   - Continuous photophobia: 3

5. Foreign body sensation
   - No FB sensation: 0
   - Occasional FB sensation: 1
   - Intermitent FB sensation: 2
   - Continuous FB sensation: 3

6. Mucopurulent discharge
   - No discharge: 0
   - Discharged not requiring mopping: 1
   - Discharged causing sticking of lids in morning: 2
   - Discharged causing severe discomfort: 3

7. Edema
   - No edema: 0
   - Mild edema: 1
   - Moderate edema: 2
   - Severe edema with difficulty in opening lids: 3

8. Congestion
   - Antaravartma
     - No congestion: 0
     - Congestion with clear pattern of blood vessels: 1
     - Congestion with poorly visible pattern of blood vessels: 2
     - Velvetty conjunctiva or loss of blood vessels pattern: 3
   - Bulbar conjunctival
     - No congestion: 0
     - Mild congestion: 1
     - Conjunctival congestion in palpebral aperture: 2
     - Conjunctival congestion in whole of Bulbar conjunctiva: 3

9. Conjunctival hypertrophy
   - No hypertrophy: 0
   - Mild hypertrophy: 1
   - Moderate hypertrophy: 2
   - Severe hypertrophy: 3

10. Culture (of conjunctival sac)
    - Pathogens not found: 0
    - Pathogens found: 1

Investigational criteria
For the purpose of assessing the general condition of the patient and to exclude other pathologies, the following investigations were performed in all the selected patients:

Routine examination
i. Hb%, TLC, DLC, ESR
ii. Urine
   - Routine
   - Microscopic
iii. Culture and sensitivity test.
After arriving the proper diagnosis, clinical proforma was filled up which incorporated all the signs and symptoms based on both Ayurvedic as well as modern parameters.

**Method of preparation of drugs**

**Rasanjana Madhu eye drops (RM eye drops 1%)**

Rose water is filtered with autoclaved filter paper. Then, Rose water and honey are taken in the ratio of 1:1.86, i.e., in the 100 ml of solution, 65 ml of honey and 35 ml of rose water is taken in an autoclaved beaker. Then, Rasanjana is added in the ratio of 1:100 in this solution to make it 1% concentrated, i.e., 1 g per 100 ml solution. This solution is then mixed with stirrer until whole Rasanjana is dissolved completely. Then, with the help of pipette, this prepared drug is poured into autoclaved 10 ml disposable small plastic bottles.

**Honey rose water eye drops (HR eye drops)**

In these eye drops, 65 ml of honey and 35 ml of rose water (filtered) per 100 ml of solution without adding Rasanjana in the solution was taken. Rest of the procedure is same as described above.

The patients were selected by random sampling technique and divided into two groups viz. Group I and Group II.

**Group-I**

Twenty patients were kept in this group; they were given RM eye drops, two drops six times a day as a trial drug.

**Group-II**

Fifteen patients were kept in this group. They were given HR water eye drops, two drops six times a day as a trial drug.

**Assessment phase**

The effect of the treatment (results) was assessed regarding the clinical signs and symptoms (on the basis of grading and scoring system) and overall improvement.

Data analysis - SPSS 11.5 for windows software (SPSS Inc., 444 N. Michigan - Avenue, Chicago, Illinois - 60611, USA) was used for statistical analysis.

**Overall assessment of the therapy**

To assess the overall effect of the therapy, following criteria was down:

| Sign and symptoms            | Mean value | Mean diff. | Percentage relief | S.D. | S.E. | ’f’ | P     |
|------------------------------|------------|------------|-------------------|------|------|-----|-------|
| Redness                      | 2.6        | 0.6        | 2                 | 76.92| 0.53 | 0.13| 14.4  |
| Burning sensation            | 1.5        | 0.9        | 1.5               | 100  | 0.65 | 0.17| 8.6   |
| Lacrimation                  | 2.46       | 0.65       | 2.46              | 100  | 0.66 | 0.18| 13.4  |
| Photophobia                  | 2.28       | 0.74       | 2.26              | 96.92| 0.89 | 0.23| 9.2   |
| Foreign body sensation       | 2.26       | 0.7         | 2.26              | 100  | 0.79 | 0.20| 10.9  |
| Discharge                    | 2.4        | 0.7        | 2.4               | 100  | 0.82 | 0.21| 11.2  |
| Heaviness/lidedema           | 1.8        | 0.7        | 1.8               | 100  | 0.78 | 0.24| 7.2   |
| Conjunctival hypertrophy     | 2.46       | 0.23       | 2.23              | 90.65| 0.72 | 0.20| 11    |
| (a) Palpebral                | 2.53       | 0.8        | 1.73              | 68.37| 0.59 | 0.15| 11.3  |
| (b) Bulbar                   | 1.85       | 0.07       | 1.78              | 96.2 | 0.80 | 0.21| 8.31  |
| Culture                      | 1          | 0.75       | 0.25              | 25   | 0.50 | 0.25| <0.05 |

**Observations and Results**

Effect of therapy was assessed in 25 patients of both groups on the basis of changes observed in cardinal signs and symptoms with the help of statistical analysis [Tables 1 and 2].

In Group-I, the results showed that therapy provided significant relief in redness (76.92%), mucopurulent discharge (100%), photophobia (96.92%), lacrimation (100%), and FB sensation (100%).

The therapy also provided relief in palpebral and bulbar conjunctival congestion by 68.37% and 96.2%, respectively. Papillary hypertrophy improved by 90.65% and edema by 100%, which is also statistically significant.

In the present study in this group, five patients were completely cured, nine other showed marked improvement, and one patient was moderately improved [Table 3].

In Group-II, the results showed that the therapy provided significant relief in redness (65.38%), mucopurulent discharge (84.61%), burning sensation (83.33%), photophobia (75.9%), lacrimation (82.6%), and FB sensation (73.72%).

The therapy also provided relief in palpebral and bulbar conjunctival congestion by 62.96% and 82.3%, respectively. Papillary hypertrophy improved by 76.59% and edema by 100%, which is also statistically significant. In the present study in this group, no patient was completely cured, six were marked and four were moderately improved [Table 3].

Thus, the above result of Gr-II shows significant relief statistically and difference in relief percentage between Gr-I and Gr-II was observed. Gr-I showed more relief in symptoms statistically. During
the course of therapy and after withdrawal, there is no side effect, no toxic or adverse effect of the drugs was observed from any subject of both the groups.

### Discussion

In the present study, total number of 35 patients in two groups (20 in Gr. I and 15 in Gr. II) were registered and were given RM Ashchyotana (RM eye drops) in Gr I and HR water eye drops in second group. Of 35 patients, 25 completed the trial satisfactorily, while 10 patients were dropouts. The diagnosis was done on the basis of signs and symptoms described in Ayurvedic and modern texts and then examined on clinical parameters.

Both the eye drops were given two drops six times per day. During the trial, patients were assessed on third day and seventh day of treatment. After seventh day, drug administration was stopped and patients were followed up for the next 1 week.

Results obtained were also statistically analyzed and mean percentage relief, S.D., S.E., and ‘t’ value by using the paired ‘t’ test was calculated.

During the present study, it was observed that most of the patients, i.e., 72% were between the age group of 21 to 60 years, followed by 28% patients between 0 to 20 years and above 60 years, there was no patient in the present study. This can be explained by the fact that the person gets/acquires immunity against the offending pathogens due to repeated infections.[5] Majority of victims were students (48%) followed by housewives (32%). This expression may be due to the fact that the disease is contagious in nature, also described by Acharya Sushruta as Aupsangha roga.[2] In clinical feature presentation, redness, M.P. discharge, bullar and palpebral congestion were found in 100% of the patients, burning sensation in 98%, lacrimation in 92%, FB sensation in 96%, photophobia in 92%, lid edema in 68%, and headache in 40% patients. In a pretreatment culture, bacteria were observed in 24% cases and in rest of the 76% cases, no bacteria was found in pretreatment conjunctival sac samples. All the points of criteria of assessment show significant improvement in both the groups, but the response of Gr-I (RM) Eye drops were more encouraging than the control group, Gr-II Honey base (HR) water eye drops.

### Conclusion

RM eye drops were found to be very effective in relieving all the clinical features like mucopurulent discharge, FB sensation, redness, burning sensation, conjunctival congestion, and papillary hypertrophy as a trial drug. The drug was much more effective than HR water eye drops, which is also supported by statistical analysis. The drug was devoid of any toxic effect also and thus can safely substitute the modern management of infective conjunctivitis.

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हिंदी सारांश

इन्फेक्टिव कन्जैक्टिवाइटिस के परिपेक्ष में रसाज्ञन मधु आश्चर्योतन का नेत्राभिष्यन्द में प्रयोग

अतुल भारद्वाज, मनोज तंवर

नेत्राभिष्यन्द सर्वगत नेत्र व्याधि है तथा समय पर चिकित्सा न करने पर यह अग्रिमत्व आदि जेटिल रोगों को प्राप्त होकर दृष्टिनाश कर सकता है। रसाज्ञन व मधु के स्थापित गुणों के कारण प्रस्तुत शोष कार्य में इनका प्रयोग आश्चर्योतन (आई ड्राप्स) के स्वरूप में 35 रोगियों पर एक साथ तक किया गया। नेत्र में राग, शोष, दाह, संघर्ष व लोहितनेट्रा व जीवाणुओं को मापदंड बनाकर सफलता से व्याधि की चिकित्सा की गई। 35 रोगियों में से 93 प्रतिशत रोगमुक्त या अत्यधिक लाभ की श्रेणी को प्राप्त हुए। चिकित्सा काल के समय विशेष प्रकार का कोई अंतर्ज्ञान प्रभाव भी दृष्टिकोण नहीं हुआ।

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