

Clinical Research

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

Atul Bhardwaj¹, Manoj Tanwar²

¹Lecturer, Department of Shalakya Tantra, Maru Singh Memorial Institute of Ayurveda, Khanpur Kalan, Sonapat, Haryana, ²Lecturer, Department of Shalakya Tantra, Shri Krishna Govt. Ayurvedic College, Kurukshetra University, Kurukshetra, Haryana, India

Access this article online

Website: www.ayujournal.org

DOI: 10.4103/0974-8520.93916

Quick Response Code:



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 *Ashchyotana* (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 P.G. 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*

Address for correspondence: Dr. Atul Bharadwaj, Department of Shalakya Tantra, Maru Singh Memorial Institute of Ayurveda, Bhagat Phool Singh Mahila Vishwa Vidyalaya, Khanpur Kalan, Sonapat - 131 305, Haryana, India. E-mail: dratulbhardwaj@gmail.com

Abhishyanda with herbal formulation in the form of *Parisheka* (irrigation), *Ashchyotana* (eye drop),^[5,6] 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 *Shalaky 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

- Keratoconjunctivitis.
- Cases complicated with dacryocystitis.
- Allergic conjunctivitis.
- Trachoma.
- 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

- Redness - *Lohit Netra*
- Burning sensation - *Usha-Dah*
- Lacrimation - *Ashru Srava*
- Photophobia - *Prakash Ashayata*
- Foreign body sensation - *Sangharsh*
- Edema - *Akshi-Shopha*
- Mucopurulent discharge - *Updeh-Pichchil Srava*
- Congestion - *Raktadhikya*
 - (a) Palpebral - *Antarvartma*
 - (b) Bulbar - *Akshigoak Twak*
- Conjunctival hypertrophy

Clinical assessment

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

- Redness

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

- Burning sensation

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

No <i>srava</i>	0
Occasional <i>srava</i> (on exposure to sunlight)	1
Continuous <i>srava</i> affecting routine work	2
Very severe	3
- Photophobia

No photophobia	0
Photophobia only during exposure to sunlight	1
Intermittent photophobia	2
Continuous photophobia	3
- Foreign body sensation

No FB sensation	0
Occasional FB sensation	1
Intermittent FB sensation	2
Continuous FB sensation	3
- Mucopurulent discharge

No discharge	0
Discharged not requiring mopping	1
Discharged causing sticking of lids in morning	2
Discharged causing severe discomfort	3
- Edema

No edema	0
Mild edema	1
Moderate edema	2
Severe edema with difficulty in opening lids	3
- Congestion
 - Antarvartma*

No congestion	0
Congestion with clear pattern of blood vessels	1
Congestion with poorly visible pattern of blood vessels	2
Velvety 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
- Conjunctival hypertrophy

No hypertrophy	0
Mild hypertrophy	1
Moderate hypertrophy	2
Severe hypertrophy	3
- 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

- Hb%, TLC, DLC, ESR
- Urine
 - Routine
 - Microscopic
- 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.

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:

Completely cured - More than 90% relief in symptoms and signs of the disease.

Markedly improved - More than 75% relief in symptoms and signs of the disease.

Moderately improved - More than 50% and less than 75% relief in symptoms and signs of the disease.

No improvement/unchanged - Less than 25% relief in signs and symptoms of the disease.

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%), burning sensation (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 (76.59%), 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

Table 1: Summary of clinical profile (Gr. I)-RM eye drops

Sign and symptoms	Mean value		Mean diff.	Percentage relief	S.D.	S.E.	't'	P
	BT	AT						
Redness	2.6	0.6	2	76.92	0.53	0.13	14.4	>0.001
Burning sensation	1.5	0	1.5	100	0.65	0.17	8.6	>0.001
Lacrimation	2.46	0	2.46	100	0.66	0.18	13.4	>0.001
Photophobia	2.28	0.07	2.21	96.92	0.89	0.23	9.2	>0.001
Foreign body sensation	2.26	0	2.26	100	0.79	0.20	10.9	>0.001
Discharge	2.4	0	2.4	100	0.82	0.21	11.2	>0.001
Heaviness/lid edema	1.8	0	1.8	100	0.78	0.24	7.2	>0.001
Conjunctival hypertrophy	2.46	0.23	2.23	90.65	0.72	0.20	11	>0.001
Congestion								
(a) Palpebral	2.53	0.8	1.73	68.37	0.59	0.15	11.3	>0.001
(b) Bulbar	1.85	0.07	1.78	96.2	0.80	0.21	8.31	>0.001
Culture	1	0.75	0.25	25	0.50	0.25	1	>0.05

Table 2: Summary of clinical profile (Gr. II)-HR water eye drops

Sign and symptoms	Mean value		Mean diff.	Percentage relief	S.D.	S.E.	't'	P
	BT	AT						
Redness	2.6	0.9	1.7	65.38	0.48	0.15	11.1	>0.001
Burning sensation	1.62	0.25	1.35	83.33	0.51	0.18	7.3	>0.001
Lacrimation	2.3	0.4	1.9	82.6	0.99	0.31	5	>0.001
Photophobia	1.88	0.44	1.44	76.59	1.33	0.44	3.2	>0.001
Foreign body sensation	2.55	0.66	1.88	73.82	0.78	0.26	7.2	>0.001
Discharge	2.6	0.4	2.2	84.61	0.78	0.24	8.8	>0.001
Heaviness/lid edema	1.42	0	1.42	100	0.78	0.29	4.8	>0.001
Conjunctival hypertrophy	1.88	0.44	1.44	76.59	0.88	0.29	4.8	>0.001
Congestion								
(a) Palpebral	2.7	1	1.7	62.96	0.48	0.15	11.18	>0.001
(b) Bulbar	1.7	0.3	1.4	82.35	0.84	0.26	5.2	>0.001
Culture	0.2	0.1	0.1	50	0.56	0.17	0.5	>0.05

Table 3: Overall effect of the treatment in 25 patients on individual relief (grade) basis results

	Cured improved		Markedly improved		Moderately improved		Mildly relief		No.	Total
	No.	Percentage	No.	Percentage	No.	Percentage	No.	Percentage		
Gr. I	5	33	9	60	1	7	0	0	0	15
Gr. II	0	0	6	60	4	40	0	0	0	10

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 *Aupsargika roga*.^[2] In clinical feature presentation, redness, M.P. discharge, bulbar and palpebral congestion were found in 100% of the patients, burning sensation in 88%, 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.

References

1. Shri Dalhanacharya, Commentator, *Sushruta Samhita*, Uttaratantra, Sarvagata Roga vigyaniam Adhyaya, 6/5, 12th ed. Varanasi: Chaukhamba Surbharati Prakashan; 2003. p. 26.
2. Ibidem *Sushruta Samhita* (1), *Kustha Nidana Adhyaya*, 5/32-33; 250.
3. Ibidem *Sushruta Samhita* (1), *Uttar Tantra*, *Sarvaroga Vigyaniam*, *Adhyaya*, 6/3-4; 26.
4. Dhanda RP, Kalevar V.A text book of clinical ophthalmology. 4th ed. Delhi: Galgotia Publications; 1993.
5. Aggarwal Riju. A clinical study of the effect of Rasanjana Madhu eye drops in the treatment of Netra Abhishyanda w. s. r. to infective conjunctivitis. *Journal of Ayurveda* 2004;36:89-92.
6. Kumar Dileep. Role of Triphala eye drops in the management of Abhishyanda (conjunctivitis). *Journal of Ayurveda* 2000;24:17-20.
7. Vaishnava PU, A clinical study of Kriya Kalpa to assess its therapeutic efficacy in disease of eye w. s. r. to Abhishyanda (conjunctivitis), *Journal of Ayurveda* 1982;7:27-30.

हिन्दी सारांश

इन्फेक्टिव कन्जंक्टिवाइटिस के परिपेक्ष में रसाञ्जन मधु आश्च्योतन का नेत्राभिष्यन्द में प्रयोग

अतुल भारद्वाज, मनोज तंवर

नेत्राभिष्यन्द सर्वगत नेत्र व्याधि है तथा समय पर चिकित्सा न करने पर यह अधिमंथ आदि जटिल रोगों को प्राप्त होकर दृष्टिनाश कर सकता है। रसाञ्जन व मधु के स्थापित गुणों के कारण प्रस्तुत शोध कार्य में इनका प्रयोग आश्च्योतन (आई ड्रॉप्स) के स्वरूप में ३५ रोगियों पर एक सप्ताह तक किया गया। नेत्र में राग, शोथ, दाह, संघर्ष व लोहितनेत्रता व जीवाणुओं को मापदण्ड बनाकर सफलता से व्याधि की चिकित्सा की गई। ३५ रोगियों में से ९३ प्रतिशत रोगमुक्त या अत्याधिक लाभ की श्रेणी को प्राप्त हुए। चिकित्सा काल के समय किसी प्रकार का कोई अवांछनीय प्रभाव भी दृष्टिगोचर नहीं हुआ।

New features on the journal's website

Optimized content for mobile and hand-held devices

HTML pages have been optimized of mobile and other hand-held devices (such as iPad, Kindle, iPod) for faster browsing speed.

Click on **[Mobile Full text]** from Table of Contents page.

This is simple HTML version for faster download on mobiles (if viewed on desktop, it will be automatically redirected to full HTML version)

E-Pub for hand-held devices

EPUB is an open e-book standard recommended by The International Digital Publishing Forum which is designed for reflowable content i.e. the text display can be optimized for a particular display device.


Click on **[EPub]** from Table of Contents page.

There are various e-Pub readers such as for Windows: Digital Editions, OS X: Calibre/Bookworm, iPhone/iPod Touch/iPad: Stanza, and Linux: Calibre/Bookworm.

E-Book for desktop

One can also see the entire issue as printed here in a 'flip book' version on desktops.

Links are available from Current Issue as well as Archives pages.

Click on  View as eBook