



## ROLE OF 'NAGRADI ASHCHYOTANA' IN MANAGEMENT OF ABHISHYANDA W.S.R. TO VERNAL KERATOCONJUNCTIVITIS - A CLINICAL STUDY

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### ABSTRACT

**Background:** Vernal keratoconjunctivitis is a common form of allergic conjunctivitis in tropical countries like India. It is a bilateral recurrent form of the disease which is common in 5–15-year-old males. An ocular allergy occurs frequently which leads to extremely annoying symptoms that led to absence from school and work. **Aims & objectives:** To see the efficacy of *Naagradi Aschyotana* in *Abhishyanda* with special reference to Vernal Keratoconjunctivitis. **Material & Methods:** 45 patients of VKS were randomly selected from *Shalaky* OPD and were divided into 3 groups of 15 patients each. In the group, A *Naagradi Aschyotana* was given. In group B, Bepotastine basilate (1.5%) was used as a controlled drug to compare effects. In group C, *Naagradi Aschyotana* was given along with Bepotastine basilate (1.5%) to see its combined effect. **Results:** Out of 15 patients, 2 patients were completely relieved, marked improvement was observed in 5 patients, moderate improvement was observed in 7 patients, and 1 patient dropped the treatment in group A. Out of 15 Patients, 1 patient was completely relieved, marked improvement was observed in 2 patient, moderate improvement was observed in 10 patient, 2 patient dropped out in group B. Out of 15 patient, marked improvement was seen in 11 patients & moderate improvement was seen in 4 patient of group C. **Conclusion:** Significant improvement was found in all groups.

**Keywords:** *Naagradi Aschyotana*, *Kaphaja Abhishyanda*, Vernal keratoconjunctivitis

## INTRODUCTION

There are 5 sense organs which include Eye, Ear, Nose, Tongue, and Skin. Eyes are most valuable amongst them, as *Ayurveda* says '*Sarvairindriyanam nayanam pradhanam*'. Even *Ashtang Hridaya* quoted that "Sincere efforts should be made by every individual to Protect their vision till last breath because for an individual who is blind, day and night are the same and this beautiful world is of no use to them even if they possess a lot of wealth<sup>1</sup>. The word *Abhishyanda* is derived from the root *Syanda* which is prefixed by 'Abhi' Upasarga and suffixed by 'Ghan' Pratyaya. It means *Ativridhi* and *Sravana*<sup>2</sup>. So, *Abhishyanda* means excessive discharge from the eyes. *Abhishyanda* is considered the root cause of eye diseases. If it is not treated in time it may lead to severe complications. So, it should be treated as soon as possible<sup>3</sup>. *Abhishyanda* can be correlated with conjunctivitis in modern days as they have common symptoms. Most of the symptoms of *Abhishyanda*, specially *Kaphaja Abhishyanda* match with Vernal Keratoconjunctivitis. Foreign body sensations can be co-related with *Vataja Abhishyanda*. Redness, burning sensation & longing for cold can be co-related with *Pittaja Abhishyanda*. Lacrimation, itching, white ropy discharge, stickiness, swelling & heaviness in the eye can be co-related with *Kaphaja Abhishyanda*. Vernal Keratoconjunctivitis is the most common and troublesome among all types of allergic conjunctivitis in childhood and adolescence which is caused by exogenous allergens. It is an atopic condition of the external ocular surface. There is also a seasonal variation in these patients, with peak incidence occurring in the spring and summer. These symptoms might become perennial over years. Thus, the more chronic the disease, the higher the chances of symptoms becoming persistent<sup>4</sup>. The exact etiology of VKC is still not clear but many studies have proven its association with Basophil & IgG mediated hypersensitivity. Therefore, it is clear that allergy plays an important role in the etiopathogenesis of VKC. At present time

there are many treatments available for it, like NSAIDs, topical corticosteroids, and mast cell stabilizers but they give symptomatic relief only and also cause many side effects like dry eyes, increased risk of other infections, etc.

### Aims & Objectives

- To study the efficacy of *Naagradi Aschyotana* in *Abhishyanda* with special reference to Vernal Keratoconjunctivitis.
- To study the relation between *Abhishyanda* and Vernal keratoconjunctivitis.
- To compare the efficacy of *Naagradi Aschyotana* with Bepotastine basilate (1.5 %).

### Materials & Methods

#### Selection & Distribution of Patients

The study was carried out on 45 patients with Vernal kerato conjunctivitis who visited *Shalaky* OPD. **3 groups were made group A, group B, and group C. 15 patients were kept in each group.**

#### Inclusion criteria

- ✓ Patients with signs and symptoms of Vernal Keratoconjunctivitis.
- ✓ Age 5-20yr

#### Exclusion criteria

- ✓ The patient is not willing to trial.
- ✓ Patients suffering from Vernal Keratopathy like shield ulcer etc.
- ✓ Patients affected by other ocular allergy like atopic keratoconjunctivitis, Giant papillary conjunctivitis, etc.
- ✓ Patients taking other eye drops or medication.
- ✓ Patients with a complication like Dacryocystitis, corneal ulcer Keratoconus
- ✓ Glaucoma etc.
- ✓ Age more than 20 years and less than 5yr.

#### Investigations

Laboratory investigations like Hb%, ESR, TLC, and DLC were done in order to rule out any systemic disease and to study the effect of the intervention.

### Drug schedule & duration

| Group             | A<br>(Trial group)  | B<br>(Control group)        | C<br>(Trial group)   |
|-------------------|---------------------|-----------------------------|--|
| Drug intervention | Naagradi Aschyotana | Bepotastine basilate (1.5%) | Naagradi Aschyotana + Bepotastine basilate (1.5%)                        |
| Dose              | 1 drop 4 times      | 1 drop 2 times.             | Naagradi Aschyotana 1 drop 4 time.<br>Bepotastine basilate 1 drop 2 time |
| Duration          | 2 months            | 2 months                    | 2 months   |

#### Do's

- ✓ Patients were advised to consume *Chakshusya* drugs daily like *moong dal*, *shigru*, *Aamlaki*, *Dadim*, etc.
- ✓ They were advised to wear sunglasses in sunlight to avoid photophobia, dust, and exposure to air.
- ✓ Cold compression with an ice pack for a soothing effect if needed.

#### Don'ts

- ✓ Patients were advised to avoid cold food and drinks.
- ✓ Not to consume food substances of *Katu*, *Amla Rasa*, *Tikshna*, *Ushna Padartha*.
- ✓ *Madya*, *Matsya* and *Vidahi Anupana*.

- ✓ They were advised to avoid looking at a bright light and minute objects.

#### Follow up.

Reviews were done on the 15<sup>th</sup>, 30<sup>th</sup>, 45<sup>th</sup>, and 60<sup>th</sup> day for 2 months. Signs and Symptoms were graded in order from 0 to 3.

#### Clinical assessment

A research proforma was prepared including subjective and objective parameters which were essential for the diagnosis and assessment of the disease.

The type of vernal kerato conjunctivitis was described, depending on the site of involvement. (Tarsal/Palpebral, Limbal/Bulbar, Mixed)

The measurement of symptoms and signs was done through a gradation system from 0-3 representing nil, mild, moderate, and severe.

### Subjective Parameter

|          |                        |  |
|----------|------------------------|--|
| <u>1</u> | Itching                | 0 - No desire to scratch or rub eyelids<br>1 - Occasional desire to scratch<br>2 - Frequent desire<br>3 - Constant desire                                    |
| <u>2</u> | Tearing                | 0 - Normal tear production<br>1 - Sensation of tears but not spilling over lids<br>2 - Infrequent spilling of tears<br>3 - Nearly constant spilling of tears |
| <u>3</u> | Discharge              | 0 - No discharge<br>1 - Ropy discharge include sac<br>2 - Presence of crust on awakening<br>3 - Lids tightly matted with discharge                           |
| <u>4</u> | Photophobia            | 0 - No difficulty<br>1 - Mild difficulty causing squinting<br>2 - Dark glass is necessary<br>3 - Difficulty causing to stay indoor                           |
| <u>5</u> | Burning sensation      | 0 - Absent<br>1 - Mild Burning<br>2 - Moderate<br>3 - Extreme Burning  |
| <u>6</u> | Foreign body sensation | 0 - Absent<br>1 - Mild<br>2 - Moderate<br>3 - Extreme sensation  |

### Objective Parameter

|          |                          |  |
|----------|--------------------------|--|
| <b>1</b> | Conjunctival hyperemia   | 0 - Normal (Normal eye)<br>1 - Mild (Slightly dilated vessels)<br>2 - Moderate (More apparent dilated blood vessel, intense, Red, involving vast majority of vessels)<br>3 - Severe (Numerous dilated blood vessels, deep red, sometimes with chemosis.) |
| <b>2</b> | Gelatinous opacification | 0 - No development of gelatinous ring<br>1 - Slightly visible<br>2 - Visible<br>3 - Prominent  |
| <b>3</b> | Horner Trantas spots     | 0 - No evidence<br>1 - In one quadrant<br>2 - In two quadrants<br>3 - In three or more quadrants   |
| <b>4</b> | Papillary hypertrophy    | 0 - No Evidence<br>1 - Mild Papillary hyperaemia<br>2 - Hyperaemia with a hazy view of tarsal vessels<br>3 - Papillary hypertrophy and non-visualization of tarsal vessels   |

### Observation & Results

Percentage relief in all the groups

|                   | Group A        | Group B        | Group C        |
|-------------------|----------------|----------------|----------------|
| Itching           | <b>84 %</b>    | <b>69.56 %</b> | <b>89.28 %</b> |
| Tearing           | <b>81.81 %</b> | <b>69.23 %</b> | <b>85.72 %</b> |
| Discharge         | <b>80 %</b>    | <b>50 %</b>    | <b>83.34 %</b> |
| Photophobia       | <b>70 %</b>    | <b>62.5 %</b>  | <b>75 %</b>    |
| Burning Sensation | <b>80.95 %</b> | <b>52.94 %</b> | <b>81.25 %</b> |
| FBS               | <b>80 %</b>    | <b>64.28%</b>  | <b>88.23 %</b> |
| Hyperaemia        | 84 %           | 59.09 %        | 88.88%         |
| GO                | 22.23%         | 15.38 %        | 25 %           |
| HT                | 10 %           | 12.5 %         | 16.67 %        |
| Hypertrophy       | 76.19 %        | 70 %           | 85 %           |

### Intergroup Comparison :

In inter-group comparison, no significant difference was found in any symptoms except hyperaemia. In overall comparison, the effect of both the trial and control drug was statistically the same.

### DISCUSSION

This study was conducted on 45 patients (Both Eyes). 1 patient from group A & 2 patients from group B dropped out. 42 Patients completed the trial.

#### The discussion is related to demographic data.

Maximum number (22) 52.38 % of patients were in the age group of 16-20 years. Most of the patients 69.04 % (29) were Male. Most of the patients 76.19

% (32) were students. Most of the patients 83.33 % (35) were unmarried. 95.23 % (40) of patients were educated. Most of the patients, 52.38 % (15) patients belonged to the Lower middle class. Most of the patients 59.52% (25) patients came from Rural areas. 40.47% (17) of patients came from urban areas. Most patients 88.09 % (37) had no family history. Most patients 88.09 % (37) had no allergic history. In most of the patients, 78.57% (33) patients were taking a mixed diet. 78.57 % (33) patients had regular bowel. Most of patients 47.62 % (20) Prakriti was *Pitta-Kapha*. Most of the patients had *Madhyama Samhanana, Satva, Satmaya, and Pramana*. 47.61 % were having *Madhyama Abhyrana Shakti*.

Most of the patients, 42.85 % (18) patients *Vyayam Shakti* were *Madhyama*. 80.96 % (34) had no vision issue. Rest patients had refractive error issues which were corrected with spectacles.

#### Discussion on clinical finding

- Symptoms-wise distribution showed that 100 % (42) patients were complaining about itching in both eyes, 85.72 % (36) complains about tearing, 76.19 % (32) about Discharge, 54.76 % (23) Photophobia, 80.95 % (34) Burning sensation and 69.04 % (29) complained about foreign body sensation.
- Sign-wise distribution showed that 100 % (42) patients had Bulbar hyperaemia, 59.52 % (25) had Gelatinous opacification, 45.23 % (19) had Horner trantas dots, 92.85 % (39) patients were seen with Papillae hypertrophy. Papillae were found in the upper Palpebral conjunctiva within 57.15 % (24) patients, in the lower conjunctiva within 2.39 % (1) patients and in 33.34 % (14) patients had papillae in both the conjunctiva.

#### Discussion on the probable mode of action of the trial drug

*Naagradi Aschayotana* contains *Nagara*, *Nimba*, *Amlaki*, *Vibhitaki*, *Haritaki*, *Lodhra*, and *Vasa*<sup>5</sup>. *Nagara Moola* has a *kapha-vatashamaka* effect<sup>6</sup>. Its naturally derived compounds like 6-Shogaol (SHO) and 6-gingerols (GIN) have been found to have anti-allergic effects. Some active compounds of *Nagara* like gingerols and diarylheptanoids are responsible for anti-inflammatory effects. It has immunomodulatory, antioxidant, and Analgesic effects too<sup>7</sup>. *Nimba* has the *kapha-pittashamaka* effect<sup>8</sup>. *Triphala* is *Chakshusya* & *tridosahara*. *Amlaki's* main constituents, i.e., gallic acid contain anti-allergic, anti-oxidative, and anti-inflammatory effect<sup>9</sup>. *Vibhitaki* act as *Kaphashamaka* due to *ruksha-laghu guna*, *Pittashamaka* due to *Kasaya Rasa* & *madhur vipaka* and *Vatashamaka* due to *ushna virya*<sup>10</sup>. *Acharya Charaka* has introduced *lodhra* in *Shonitsthapana gana*, thus *lodhra* has a good effect in reducing congestion, burning sensation, and decreasing secretion. Some previous studies have proved the anti-allergic,

anti-inflammatory effect of *Vasa*. It has *tikta kasaya rasa*, *ruksha-laghu guna* and *kapha-pittahara*. It also possesses *Vishaghna* and *Dahashamaka* properties<sup>11</sup>.

Therefore, by the combination of the above-mentioned properties such as *Kaphapittaghna*, *Chakshusya*, *Sothahara*, *Dahashamaka*, anti-allergic, anti-inflammatory, immunomodulatory, etc. *Naagradi Ashchayotan* may help in the management of Vernal Keratoconjunctivitis.

#### Discussion on Results

- Out of 14 patients, 2 patients were completely relieved, marked improvement was observed in 5 patients, and moderate improvement was observed in 7 patients in group A.
- Out of 13 Patients, 1 patient was completely relieved, marked improvement was observed in 2 patients, and moderate improvement was observed in 10 patients of group B.
- Out of 15 patients, marked improvement was seen in 11 patients & moderate improvement was seen in 4 patients of group C.

#### CONCLUSION

Based on the review of the literature and observations made in this clinical study, the following conclusions are drawn. VKC is the most common troublesome disease affecting children and young adults in the present day. Based on clinical features Vernal Keratoconjunctivitis can be co-related mainly with *Kaphaja Abhishyanda* and then *Pittaja Abhishyanda*. Statistically & clinically significant improvement in most of the signs & symptoms of VKC excluding gelatinous opacification and Horner trantas spots have been observed in all the groups. No adverse effect was observed during the overall course of the trial. The ingredients of the drug *Naagradi Ashchayotan* have *kapha*, *pitta*, and *rakta* alleviating properties. They also possess anti-allergic, anti-inflammatory, immunomodulatory, and antioxidant properties. Due to these properties, it pacifies *Kapha* and *Pitta dosha* in *Abhishyanda*.

## Patients from group A

Before



Figure 1

After



Figure 2

## Patients from group C

Before



Figure 3

After



Figure 4

### Recommendations for future study:

- In the future, scholars/researchers should conduct a study in a large group sample.
- Duration of trial and follow-up can be increased to assess the total effect of medication for a longer period.
- The experimental and analytical study should be planned prior.
- A better understanding of the pathogenesis of the disease has been a challenge for ophthalmologists and pediatricians. Such knowledge will lead to new therapeutic options for these patients.
- The same study may be planned along with oral drugs or *Shodhana* therapy.
- The episodes of VKC are seasonal. It is self-limiting in winter but shows chronic sign symptoms in the spring and summer seasons. Therefore, the study should be planned to keep this point in mind for VKC.

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