Published online in http://ijam. co. in

ISSN: 0976-5921

International Journal of Ayurvedic Medicine, 2016, 7(2), 123-129

Study on the role and efficacy of Triphala Ghrita Aschyotan in Vataj Abhishyanda w.r.t Allergic Conjunctivitis

Research Article

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Abstract

Allergic conjunctivitis is a common ophthalmic problem predominantly affecting the outdoor workers. The eyes are exposed to different environmental factors. The eye and eyelids are very common sites for allergic reactions. About 50% of conjunctivitis seen by primary physicians is allergic in nature. *Vataj Abhishyanda* is a clinical entity which can be correlated with allergic conjunctivitis. *Triphala Ghrita Aschyotan* helps to relieve the symptoms of *Vataj Abhishyand* w.r.t allergic conjunctivitis. *Triphala Ghrita* is a *Vyadhi Pratyanik Dravya* and helpful in topical eye allergies. Aim: To study the role and efficacy of *Triphala Ghrita Aschyotan* in *Vataj Abhishyanda* w.r. t. allergic conjunctivitis. Materials and Method: A total 60 patients of the age group 15-60 years presenting with signs and symptoms of *Vataj Abhishyanda* w.r.t allergic conjunctivitis were selected randomly from OPD of the department of *Shalakyatantra*, Government *Ayurved* College, *Nanded* (M.S.) within inclusion criteria and were treated in two groups. The 30 patients of trial group were treated with *Triphala Ghrita Aschyotana* and patients of control group in similar number were subjected to Ketotifen Fumarate eye drop. Results: The trial drug *Triphala Ghrita* is equally effective as compared to Ketotifen eye drop. Trial drug provided more relief in symptoms like *Sangharsha* (Itching of eyes), which is the parameter of efficacy. Conclusion:*Triphala Ghrita Aschyotan* is an effective, safe and potent treatment of *Vataj Abhishyanda* w.r.t allergic conjunctivitis.

Keywords: Allergic Conjunctivitis, *Vataj Abhishyanda, Triphala Ghrita, Aschyotana*, Ketotifen Fumarate

Introduction

Ayurveda, the ancient science of India has described the importance of an eye, without which a life is miserable. *Ayurveda* allocates prime place to sense organs, has recognized that among all sense organs, organ of sight is the greatest gift of God and it is our duty to protect and preserve the eyes. The eye is one of the most delicate organ of the body and any sort of symptom make all of us running to the ophthalmologist. This vital organ is exposed to different environmental factors. The eye and eyelids are very common sites for allergic reactions. About 50% of conjunctivitis seen by primary physicians is allergic in nature.

Sushruta has described the 76 types of eye diseases in his classical text *'Sushruta Samhita'*. These eye diseases were classified according to the structures affected in the eye. These diseases are more or less comparable with modern eye diseases. One group of eye diseases known as *'Sarvagata Roga'* includes the *Netrabhishyanda. Netrabhishyanda* is explained under the heading *'Sarvagata Roga'* because all the eye disease under this heading are occupying most of the part of the eyeball like *Mandala, Sandhi* and *Patala.* Out of all these diseases *Netrabhishyanda* got tremendous importance because it acts as 'Root Cause' for almost all affections of the eyeball (1). Therefore a wise clinician should treat a case of developing *Abhishyanda* promptly for the benefit of the patient.

The symptomatology of *Vataj Abhishyanda* is itching and grittiness of the eyes, foreign body and pricking sensation of eyes, watering, congestion, dryness of eyes, mild lid edema, scanty discharge from eyes, numbness in and around the eye, etc (2). Patients suffering from *Vataj Abhishyanda* are very commonly found in O.P.D. Hence it has been decided to select *Vataj Abhishyanda* for the study. *Vataj Abhishyanda* can be correlated with simple allergic conjunctivitis.

Switching over back to modern, seasonal allergic conjunctivitis and perennial allergic conjunctivitis accounts for 66 to 90% of all cases of allergic eye diseases (3). Ocular allergy beyond being annoying, may get vary disabling and this can lead to serious physical and physiological discomfort, as well as to significant costs in terms of medical care. The management of ocular allergic reaction is primarily aimed at reducing symptomatology and quelling any significant inflammation so this disease was selected to treat with the *Ayurvedic* line of treatment.

Kriyakalpa is the only field of *Ayurvedic* ophthalmology which has the potential to combat to the suffering humanity and *Aschyotan* is one of the *Kriyakalpa* mentioned by *Acharya Sushruta* as a local treatment of eye diseases (4). It relieves the symptoms like itching, pain, hyperaemia, FB sensation, etc. and hence it is useful in all types of *Netraroga* including

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Vataj Abhishyanda. For the treatment of *Vataj Abhishyanda* there are so many preparations of *Vataghna* and *Chakshushya Dravyas* mentioned in different *Samhitas* by *Acharya.* Amongst all of them, *Sharangdhara* has quoted *Triphala* as drug of choice to treat effectively for *Abhishyanda* and all types of attributes (5). *Gayadasacharya* stated that *Triphala Ghrita* is *Vyadhipratyanik Dravya* (6).*Triphala* and *Ghrita* are the *Chakshushya Dravya* (i.e.beneficial for eyes). These *Chakshushya Dravyas* by its action nourishes the eyes and gives *Bala* to the most vital *Indriya* i.e. *Chakshurendriya. Triphala* was mentioned repeatedly in different compound preparations by *Acharya*. So *Triphala Ghrita* decided for study.

Now coming to the modern line of treatment for allergic conjunctivitis which is conservative and symptomatic includes antihistamines, mast cell stabilizers, steroids and NSAIDs. Complete avoidance of allergens exposure may be difficult for many patients. Cold compresses can offer temporary relief. Topical vasoconstrictors with or without antihistamines may provide quick symptoms when the medication is abruptly discontinued. Steroids cause secondary glaucoma and cataract. The artificial tear substitutes and lubricants have short duration of action and develop sensitivity due to toxicity of preservatives in the medicine. The use of preservative free drugs is very costly and many time patients ignore the prescribed treatment. Considering all the lacunas of established treatment and increased prevalent rate of disease due to changing lifestyle it is necessary to look for the alternative therapy which is safe, cheap, easily available and more effective in allergic conjunctivitis. Hence the clinical trial was designed with *Triphala Ghrita Aschyotan* in *Vataj Abhishyanda* w.r.t. allergic conjunctivitis

Aim

To study the role and efficacy of *Triphala Ghrita Aschyotan* in *Vataj Abhishyanda* w.r. t. allergic conjunctivitis.

Objective

i) To study the effect of *Triphala Ghrita Aschyotan* in comparison with Conventional modern treatment of allergic conjunctivitis w.r.t. *Vataj Abhishyanda*.
ii) To avoid complications of the disease.
iii) To prescribe comparatively cheap and easily available preparation in patient's interest.

Materials and Methods

A total 60 patients of the age group 15-60 years presenting with signs and symptoms of *Vataj Abhishyanda* w.r.t allergic conjunctivitis were selected randomly from OPD of the department of *Shalakyatantra*, Government *Ayurved* College, Nanded (M.S) within inclusion criteria and were treated in two groups. The 30 patients of trial group were treated with *Triphala Ghrita Aschyotana* and patients of control group in similar number were subjected to Ketotifen Fumarate eye drop.

Inclusion criteria

Patients presenting signs and symptoms of *Vataj Abhishyanda* w.r.t allergic conjunctivitis like itching of eyes, irritation and FB sensation, dryness of eyes, congestion of eyes i.e. redness.

Patients having excessive outdoor work and which are exposed to allergens and the other environmental factors.

Patients of either sex were included in study.

Criteria for diagnosis

- The patients were interrogated and examined in accordance with proforma. Personal history and family history, general, routine and systemic examinations were carried out to rule out other systemic diseases.
- Examination of visual acuity
- Examination of absolute eosinophil count in tear.

Exclusion Criteria

- Patients not willing for trial and follow up.
- Patients having viral and bacterial conjunctivitis.
- Patients suffering from vernal keratoconjunctivitis, Atopic keratoconjunctivitis, Giant papillary conjunctivitis.
- Patients having complicated eye diseases and trachoma, chalazion, stye, pterygium, dacryocystitis, trichiasis, etc.
- Patients suffering from corneal opacity, ulcers.
- Patients suffering from systemic disease like HTN, DM, TB, etc.

Parameters for assessment

Patients fulfilling the diagnostic criteria were taken for analysis by opting following assessment criteria:

- Absolute eosinophil in tear- Present or absent

The following symptoms were given score as below:

- *Sangharsh* (i.e. itching of eyes):
  - Absent (No itching) - 0
  - Mild (Itching on exposure) - 1
  - Moderate (Itching during work) - 2
  - Severe (Itching all time) - 3
- *Nistodana* (i.e. irritation and foreign body sensation of eyes):
  - Absent (No irritation and FB Sensation) - 0
  - Mild (Irritation on exposure) - 1
  - Moderate (Irritation during work) - 2
  - Severe (Irritation at rest) - 3
- *Vishushkabhava* (i.e. Dryness of eyes) :
  This parameter was decided on the basis of Schirmer's test.
  - Absent (20 - 35 mm) - 0
  - Mild (15 - 20 mm) - 1
  - Moderate (5 - 15 mm) - 2
  - Severe (< 5 mm) - 3
- *Raaga* (i.e. Congestion of eyes):
  - Absent (no congestion) - 0
  - Mild (Only hyperaemia of conjunctiva) - 1

Published online in http://ijam. co. in

ISSN: 0976-5921

International Journal of Ayurvedic Medicine, 2016, 7(2), 123-129

- Moderate (Congestion without chemosis of eyes) - 2
- Severe (Congestion with chemosis of eyes) -3

The graded values were later totally and individually scored and assessed statistically to find out the rate of effect of treatment. The age, sex, occupation, habitat wise distribution of patients with socioeconomic status was also recorded and assessed statistically.
The effect of treatment in each group was assessed separately by analyzing the pre treatment and post treatment data, scores and values. The effect of KetotifenFumarate eye drop was assessed and analyzed statistically. The comparison of the effect of therapy of two groups done by applying Chi Square test.

Ingredients of drug for trial group: (7)

1. *Triphala Kalka* : 1 *Pala* (40 gm)
2. *Triphala Kwatha* : 64 *T*ola (640 ml)
3. *Goghrita* : 1/2 *Prastha* (320 gm)
4. *Godugdha* : Quantity same as *Kwatha* (640 ml)

All the above ingredients are taken into utensils along with stirrer and kept on gas stove or burner. The above mixture is heated till "*Snehasiddhi Lakshana*" appears in mixture or 320 ml of *Ghrita* remains in utensil.

Dose: A dose of 2 drops two times a day for 15 day.

Antihistamine and mast cell stabilizer- Ketotifen eye drop i.e. Ketotifen Fumarate.

Dose: A dose of 2 drops two times a day for 15 day.

Observations

A majority of patients (41.66%) were reported in age group of 15-25 yrs followed by 30% in the age group of 26-35yrs. The observed M: F ratio was 1.60:1. The outdoor workers were 36.67% as consideration with occupation. The habitat wise distribution of patients shows 51.67% cases from urban and 48.33% cases from rural area from both groups. The higher incidence of patients was found in 5-8 months chronicity i.e. 24 cases (40%). Considering recurrence only 10 patients have given follow up for recurrence, out of them 3 patients were found recurrence in experimental group.7 patients from control group have given follow up for recurrence, out of them 3 were found recurrence. It may be exposure to the same allergens.

Results

By statistical analysis, it was proved that, *Sangharsha* (i.e. itching sensation of eyes), *Nistodana* (i.e. irritation and foreign body sensation of eyes) and *Raag* (i.e. Congestion of eyes) were improved in both groups. Paired t-test was significant in both groups ($P<0.05$). When unpaired t-test was applied for above symptoms, it was highly significant in *Sangharsha* (i.e. itching sensation of eyes) and *Raag* (i.e. Congestion of eyes) symptoms which indicates that the trial drug was more effective in both symptoms than control drug and unpaired t-test was insignificant for *Nistodana* (i.e. irritation and foreign body sensation of eyes) indicates that the trial drug and control drugs are equally effective in FB sensation and irritation of eyes.

In case of *Vishuskabhava* symptom in all patients cold lacrimation is too much that the Schirmer's test was negative in every patient. Dryness can only be a symptom felt by patient which makes ocular movements difficult. It merely *Vishushkabhava* means absence of mucoid discharge and not the dryness of eyes.

The limitations of the study are mainly the investigational parameter. The tests regarding the diagnosis of allergic eye diseases are costly like IgE count in tear, skin prick test. Also the eosinophil to come in smear it needs vigorous scraping of conjunctiva. So this thing needs careful as well as skillful efforts. The other tests are performed in big hospitals only. But to diagnose an allergic eye disease these test are used at limited extent and rely more on history. So the eosinophil parameter was not fulfilled in this in this study and it remains a challenge for the future researchers in *Ayurveda.*

In experimental group 13 patients were cured, 10 patients were relieved and 7 patients were not cured. In control group 7 patients were cured, 13 patients relieved and 10 patients were not cured. By applying $\chi 2$ test to this it was summarized that both the treatments are effective in *Vataj Abhishyanda* w.r.t. allergic conjunctivitis. But the experimental group show good efficacy in all 3 symptoms. If we take the large sample the $\chi 2$ can be significant at 0.05% level.

The parameter of efficacy was *Sangharsha* i.e itching sensation of eyes and trial drug shows good results in this symptom than control drug. Also $\chi 2$ test to this symptom also comes significant. Hence the trial drug *Triphala Ghrita Aschyotan* was effective and its role in *Vataj Abhishyanda* w.r .t. allergic conjunctivits.

Table 1: Effect of therapy on *Sangharsha* i.e. itching of eyes

Follow up in days	Mean of experimental group	Mean of control group
0	2.90	2.76
5	1.85	2.03
10	1.23	1.36
15	0.30	0.56
Difference in B.T and A.T	2.60	2.20

Table 2: Effect of therapy on *Nistodana* i.e. irritation of eyes

Follow up in days	Mean of experimental group	Mean of control group
0	2.56	2.53
5	1.7	2.07
10	1.07	1.13
15	0.27	0.33
Difference in B.T and A.T	2.29	2.2

Table 3: Effect of therapy in *Raag* i.e. congestion of eyes

Follow up in days	Mean of experimental group	Mean of control group
0	2.76	2.6
5	1.80	2.03
10	1.07	1.16
15	0.30	0.50
Difference in B.T and A.T	2.46	2.1

Table 4: Showing effect of treatment on Signs and symptoms of Experimental Group

Sr.no	Symptoms and sign	N	M.D	S.D	S.E	T	P
1	*Sangharsha*	30	2.60	0.52	0.095	27.36	P<0.05
2	*Nistodana*	30	2.29	0.52	0.095	24.10	P<0.05
3	*Raag*	30	2.46	0.51	0.093	26.45	P<0.05

In case of all symptoms P<0.05 (t_{tab}=2.05), hence the test is significant. That means the drug therapy *Triphala Ghrita Aschyotan* is effective in *Vataj Abhishyanda* w.r.t allergic conjunctivitis.

Table 5: Showing effect of treatment on signs and symptoms of Control Group

Sr.no	Symptoms and signs	N	M.D	S.D	S.E	T	P
1	*Sangharsha*	30	2.2	0.63	0.1156	19.03	P<0.05
2	*Nistodana*	30	2.2	0.72	0.1316	16.71	P<0.05
3	*Raag*	30	2.1	0.58	0.1068	19.66	P<0.05

In case of all symptoms P<0.05 (t_{tab}=2.05), hence the test is significant. That means the control therapy Ketotifen Fumarate is effective in *Vataj Abhishyanda* w.r.t Allergic conjunctivitis.

Applying unpaired t- test to compare the results achieved by both treatments are:

Table 6: In case of *Sangharsha* i.e. itching sensation of eyes

Experimental Group		Control Group		S.E	T	P
Mean	S.D	Mean	S.D			
2.6	0.52	2.2	0.63	0.1274	3.14	P<0.05

t- Calculated is 3.14 and t- table is 2.00, i.e. $t_{tab}<t_{cal}$, hence t- test is significant and indicates that here the drug *Triphala Ghrita's* effect is more than control drug Ketotifen on itching sensation.

Table 7: In case of *Nistodana* i.e. Foreign Body and pricking sensation of eyes

Experimental Group		Control Group		S.E	T	P
Mean	S.D	Mean	S.D			
2.29	0.52	2.20	0.72	0.1404	0.64	P>0.05

Here t_{cal} is 0.64 and t_{tab} is 2, i.e. $t_{tab}>t_{cal}$. Hence t-test is insignificant indicates that there is no significant difference of effect on Foreign Body and pricking sensation (*Nistodana*) of eyes of both experimental and control group. That means both the drugs are equally acting on this symptoms.

Table 8: In case of *Raag* i.e. congestion of eyes

Experimental Group		Control Group		S.E	T	P
Mean	S.D	Mean	S.D			
2.46	0.51	2.1	0.58	0.1248	2.88	P<0.05

Here t_{cal} is 2.88 and $t_{tab}$is 2, i.e. $t_{tab}<t_{cal}$. Hence t-test is significant indicates that the effect of experimental drug is more than that of control drug on *Raag* i.e. congestion of eyes.

Published online in http://ijam. co. in

ISSN: 0976-5921

International Journal of Ayurvedic Medicine, 2016, 7(2), 123-129

Table 9: Total Effect of therapy

Groups	Cured Cases	Relieved Cases	Not Cured Cases	Total
Experimental	13	10	7	30
Control	8	12	10	30
Total	21	22	17	60

($\chi 2_{cal}$:3.53; $\chi 2_{tab}$: 5.99)

Calculated Chi SquareValue ($\chi 2$) is lower than the Chi Squaretable hence not significant at 5% level ($\chi 2_{cal}$:3.53; $\chi 2_{tab}$: 5.99) ($\chi 2_{cal} > \chi 2_{tab}$). Thus there is no difference in both the treatments. Both drugs used are equally acting on *VatajAbhishyanda* w.r.t. allergic conjunctivitis i.e. drug used for trial is as effective as the conventional therapy (control group). But if we take large sample then $\chi 2$ testmay be significant.

(Here t_{tab} is table value of 't', t_{cal} is calculated value of 't', $\chi 2_{tab}$ is table value of Chi-square and $\chi 2_{cal}$ is calculated value of Chi-square.)

Discussion

The eyes are the most important sensory organ in the body. All out efforts should be made by man to protect the eyes, throughout the period of life. This study was selected to prescribe comparatively cheap and easily available preparation in patient's interest. The *Abhishyanda* is a disease which we have to treat first in all eye diseases, because it is a prime cause of other eye diseases and leads to various complications.

In *Vataj Abhishyanda, Vata* is a predominant *Dosha* and *Rasa* and *Rakta* are the *Dushyas*. The signs and symptoms are purely due to vitiation of *Vata Dosha*. The various *Achakshushya Hetus* vitiates *Vata Dosha* in the *Sirasrotas* of *Urdhwa Jatru* region. Then this vitiated *Dosha* move towards the eye through the eye *Sirasrotas* confined to the *Sira* in the eye. If there is *Kha-Vaigunya* present in the eye i.e. in the *Shlaishmik Kala* then *Syanda* is produced which is called as *Vataj Netrabhishyanda*. Here this *Vata* vitiation is *Swatantra* i.e. independent and *Kapha* and *Pitta* are the other dependent vitiated *Dosha. Vataj Abhishyanda* is a disease whose signs and symptoms can be correlated with allergic conjunctivitis.

Triphala is a trio consists of *Haritaki, Amalaki* and *Bibhitaka* (8). *Sharangdharacharya* mentioned that *Triphala* is a drug of choice for all types of *Netrabhishyanda. Acharya Gayadasa* quoted in *Dalhana* commentary that *Triphala Ghrita* is a *Vyadhipratyanik Dravya. Triphala* and *Ghrita* are *Chakshushya Dravya* i.e. both gives *Bala* to *Chakshurendriya* (9). *Triphala* is believed to have balancing and rejuvenating effect on the three constitutional elements in Ayurveda viz. *Vata, Pitta & Kapha. Ghrita* has its lubricating action by *Snigdha Guna* and also as it is *Samskaranuvarti* (10) it carries the properties of *Triphala* and act as a good mediator. Also the topical conventional medicaments available in the market are topical decongestants which when used for a long period actually worsen the symptoms, overuse of topical antihistamines causes dryness and topical steroids overuse can cause elevated intra ocular pressure(IOP) , leads to visual damage, increased risk of cataract and clouding of lens that can lead to impairment of vision. These topical drugs costs between 55 to 85Rs/- which are unaffordable to poor patients, while the trial drug costs only 7.5 to 9Rs/- (per 10ml) including preparation cost which is in patients interest and feasible to the researcher also. So it was decided to instill *Triphala Ghrita* in *Vataj Abhishyanda* w.r.t allergic conjunctivitis. *Acharya Arundatta* was mentioned in his commentary about the *Upashaya* of disease *Vataj Abhishyanda* by *Snigdha* and *Ushna Chikitsa* (11). Here *Ghrita* is a *Snigdha Dravya* and best *Vatashamak* among the *Snehas* and by making *Triphala Ghrita* luke warm we are applying it in conjunctiva so it gives a lubricating and soothing effect in allergic conjunctivitis.

Aschyotan Kriyakalpa was selected for the trial because it was a prime treatment in all types of eye diseases (12). *Aschyotan* significantly reduces the congestion of eyes, itching, pricking sensation of eyes, burning sensation, lacrimation, etc. also *Aschyotan* can also be given in *Samavastha* of the eye diseases so the *Kriyalkalpa Aschyotan* was decided for the trial.

Probable mode of action (cause and effect relationship)

Acharya Vagbhata stated the mode of action of *Aschyotan*, as the *Aschyotan* drug goes in *Urdhwajatru* i.e. in region above the collar bone, spreads and brings *Dosha* outside by its *Veerya* (13). *Aschyotan* is a *Shodhana* process [*Bahyaparimarjana Chikitsa*] when decoctions are used for procedure and it acts as *Shamana* process when *Ghritas* are used. *Ghrita* by its *Snigdha Guna* pacifies the *Ruksha Guna* of *Vata*. *Vayu Mahabhuta Pradhana Ruksha Guna* in *Vataj Abhishyanda* was pacified by *Aap Mahabhuta Pradhan Snigdha Guna*. *Snigdha Guna* has soothing property and causes moistening of conjunctival mucosa and increases the stability, *Bala* and *Varna. Sheeta* and *Ruksha Guna* together causes the *Sangharsha* i.e. itching sensation of eyes and increases the vasoconstriction and grittiness feeling in the eyes.

These *Gunas* were pacified by the lukewarm *Ghrita Aschyotan* procedure which allows more absorption of drug through the vessels and decreases the symptom. So the parameter of efficacy was fulfilled and experimental group showed results better than he control group. The mucosa of conjunctiva absorbs the drug. So by virtue of *Madhur Rasa* of the contents in the *Triphala Ghrita* and the *Rasayana* property *Vata Prashamana* occurs. *Chakshushya* property of *Triphala* and *Ghrita* as well as the *Jeevaniya* property of *Godugdha* combinely acts and the *Vata dosha* come to normalcy. The *Swantantra* (independent) *Vata Dosha Dushti* pacified by all these properties. So the results observed in experimental and control group are nearly same in *Nistodana* i.e. irritation and Foreign Body sensation of eyes. *Ghrita* when instilled in eyes causes some irritation and along with that *Triphala* has its

Kashaya Rasa which also responsible for the irritation though the *Snigdhatwa* of *Ghrita* overcomes this *Kashaya Rasa* of *Triphala* and compensate it.

Fat soluble factors can penetrate *Krishnamandalam* and *Shuklamandalam*. So if *Snigdha* drugs especially *Ghrita Kalpana* is applied, it penetrates the *Mandala* so the *Laghu, Ruksha Gunas* are counter acted. Thus the patients feel relief.

Now coming to the point of allergy, it was nothing but the *Asatmya Avastha* of the body tissue. Each *Dosha* has its certain tolerance in the body. Whenever external factors disturb these constitutional elements *Dosha* vitiates in two ways i.e. *Swantatra* and *Paratantra Dosha Dushti* (14). In allergic conjunctivitis *Vata* is a *Swatantra Dosha* vitiated by external factors and the *Paratantra Dosha* are *Kapha* and *Pitta.* Histamines can be correlated with *Pitta Dosha.* So considering this correlation *Triphala* is a trio of *Tridoshahara Prabhava* and a fortified combination of *Haritaki, Amalaki, Bibhitaki* and *Ghrita* and *Godugdha* (Cow's Milk) removes the intolerance of excess or vitiated *Vata Dosha* by acting virtue of its *Guna* on *Vata Dosha*. Hence in this study the symptoms itching, Foreign Body and irritation sensation of eyes and congestion of eyes are relieved.

Samprapti bhanga

The vitiated *Dosha* are *Siranusari* and they come in eyes via these *Siras* (15). *Triphala Ghrita* when instilled in eyes it breaks the *Samprapti* of *Vataj Abhishyanda*, pacify the *Vata Dosha* and *Rakta Dushya*. Absorbed more through the *Sira,* it reaches the circulation and thus acts.

Modern way of action

Siras are routes of pathogenesis in eyes, so drug absorption is more from these *Siras* in *Aschyotan* gives results in the symptoms like congestion of eyes. The herbal compounds given in the forms of infusion and decoction contains varying amount of saponins which increases the permeability of epithelium by reducing the surface tension. Also the drug absorption is directly proportional to the vascularity of absorbing surface. Conjunctiva is a vascular tissue containing arcades of blood vessels. So drug absorption is more and result was good. The *Triphala Ghrita* is a aqueous suspension where the drug is present as small particle kept suspended in an aqueous medium by a dispersing agent (medicated ghee). Particles do not leaves the eye quickly as solutions which increase the tissue contact time. The *Triphala Ghrita* absorbs through the conjunctival mucosa, percolates into the palpebral conjunctiva and then into the bulbar conjunctiva and acts as a lubricant also. The viscosity of *Ghrita*, height from which it is dropped on eye ball, frequency and its duration of instillation, size of the drop and condition of the patient and temperature of *Ghrita* during procedure are all contributory factors to its absorption and action. In this way *Triphala Ghrita* acts in allergic eye diseases through the conjunctival route of drug administration (16).

Limitations of the study:

The limitations of the study are mainly the investigational parameter. The tests regarding the diagnosis of allergic eye diseases are costly like IgE count in tear, skin prick test. Also the eosinophils to come in smear it need vigorous scraping of conjunctiva. So this thing needs careful as well as skillful efforts. The other tests are performed in big hospitals only. But to diagnose an allergic eye disease these test are used at limited extent and rely more on history. So the eosinophil's parameter was not fulfilled in this study and it remains a challenge for the future researchers in *Ayurveda*. Another limitation is that the allergic eye disease is a vast topic and it needs a long duration for study perhaps more than three years. So in present study sincere attempt was made to study the disease in least period.

Scope of further study

Since there is an unduly long communication that we have lost the technical aspect of all the *Kriyakalpa* and it's our duty now to renovate the science and technology. One can study the complex form of allergic eye diseases like Vernal Keratoconjunctivitis, Atopic Keratoconjunctivitis with the help of other forms of medicines like decoction. Allergy is a disease of present era which caused due to suppressed immunity. The modern medicines has lacuna in this area and so an *Ayurvedic* doctor can treat this disease according to *Dosha Dushya* and also can prove it on modern parameter basis. Local therapy along with *Panchakarma* and systemic medicines may be effective. Further study is necessary for the *Brimhana* of *Ayurvedic* science.

Conclusion

Thus from above study it can be concluded that the trial drug *Triphala Ghrita* is equally effective as compared to Ketotifen eye drop. However the objective parameter in the above study needs to be further verified by conducting proper investigational methods in allergic conjunctivitis.

Acknoeledgement

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