

## TO STUDY EFFICACY OF PALASH PUSHP RASKRIYA VARTI ANJAN IN BLEPHARITIS

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### ABSTRACT

Blepharitis is one of the most common ocular disease in clinical practice. It is a subacute or chronic inflammation of lid margin causes Itching of eyes, Lid oedema, Redness in eyes, Foreign body sensation in eyes and Discomfort among people with all ages, gender and ethnicity. While the etiology and mechanism of blepharitis is complex and not fully understood also it has high recurrence rate which makes management more difficult. It may be subdivided into Bacterial, Seborrhoeic or squamous, mixed staphylococcal with seborrhoeic, Posterior(acute and chronic meibomitis) and parasitic blepharitis. If Blepharitis left untreated it may lead to many permanent changes such as trichiasis, poliosis, madarosis, tylosis and dry eye syndrome or vision loss from superficial keratopathy, corneal neovascularization

and ulceration. Also blepharitis is a chronic disease and has high recurrence rate it needs prolonged treatment. Treatment of blepharitis includes combination of antibiotic and steroid eye ointments as a contemporary line of treatment in Blepharitis but they have their own limitations. The prolonged use of these medicine leads to resistance to antibiotic and steroid induced complications such as increased intraocular pressure, posterior subcapsular cataract formation and superinfections for this reason they are not recommended for long term.

Clinical features of Blepharitis can be somewhat correlated with lakshanas of Praklinna vartma in Ayurveda and in the treatment Palash pushp raskriya varti is explained by Acharya Sushrut. Praklinna vartma is kapha dosha pradhan vyadhi with anubandh of Pitta-Rakta dosha and Palash pushp having Kapha-Pitta-Rakta shamak properties.

**KEYWORDS:** Blepharitis, Praklinna vartma, Palash pushp raskriya varti, Anjan.

## INTRODUCTION

Ayurveda is described into eight branches called as “Ashtang Ayurveda” by ancient ayurvedic physicians and surgeons. Shalakya Tantra is one of the branch of Ashtang Ayurveda, which was very developed in ancient era. Shalakya Tantra is the science of diseases and their management specific to supraclavicular region and above i.e. head, ear, nose, throat and eyes. The details knowledge of Shalakya Tantra is include in Sushruta Samhita. Besides Nimi, Vagbhata, Chakradatta, Sharangadhara were some of the ancient Ophthalmologists.

In Sushruta Samhita Uttartantra, Sushrutacharya, described the etiology, pathogenesis, symptoms, complication and treatment etc. of the Netra rogas. He has described nearly all diseases of eyes which we come across today. Eyes were greatly valued by ancient Indians & prime importance has been given for the protection of eyes. Sushrutacharya gives importance to chakshurendriya in Sushruta Samhita, because we cannot make even difference between day and night without eyes.

Blepharitis is one of the most common ocular disease in clinical practice. It is a inflammation of lid margin causes itching of eyes, lid oedema, redness in eyes, foreign body sensation in eyes and discomfort among people with all ages, gender and ethnicity. While the etiology and mechanism of blepharitis is complex and not fully understood also it has high recurrence rate which makes management more difficult. If Blepharitis left untreated it may lead to many permanent changes such as trichiasis, poliosis, madarosis, tylosis and dry eye syndrome or vision loss from superficial keratopathy, corneal neovascularization and ulceration. Also blepharitis is a chronic disease and has high recurrence rate it needs prolonged treatment. Most of the ophthalmologists used combination of antibiotic and steroid eye ointments as a contemporary line of treatment in Blepharitis but they have their own limitations. The prolonged use of these medicine leads to resistance to antibiotic and steroid induced complications such as increased intraocular pressure, posterior subcapsular cataract formation

and superinfections for this reason they are not recommended for long term. So we need such a drug which has maximum efficacy and having no complication on prolonged use.

Clinical features of Blepharitis can be somewhat correlated with lakshanas of Praklinna vartma in Ayurveda and in the treatment Palash pushp raskriya varti is explained by Acharya Sushrut. Praklinna vartma is kapha dosha pradhan vyadhi with anubandh of Pitta-Rakta dosha and Palash pushp having Kapha-Pitta-Rakta shamak properties. It is easily and abundantly available so pure drug can be obtained at less cost. Manufacturing cost of varti is also less. Hence Palash pushp raskriya varti is economically affordable to patients. It is easy to use as a Anjana, less time consuming procedure and does not interfere daily routine of the patients. So, the topic “To study efficacy of Palash pushp raskriya varti anjan in Blepharitis” was selected for research.

## AIM AND OBJECTIVES

### AIM

To study efficacy of Palash pushp raskriya varti anjan in Blepharitis.

### OBJECTIVES

1. To assess the local effect of Palash pushp raskriya varti anjan in management of Blepharitis.
2. To compare the efficacy of Palash pushp rasakriya varti with Neosporin-H eye ointment in the management of Blepharitis.

## MATERIAL AND METHODS

### MATERIALS

#### PALASH PUSHP RASKRIYA VARTI

पत्रंफलंचामलकस्यपक्त्वाक्रियांविदध्यादथवाअंजनार्थं।।

वंशस्यमूलेनरसक्रियांवावर्तीकृतांताम्रकपालपकाम्।

रसक्रियांवात्रिफलाविपक्वांपलाशपुष्पैःखरमन्जरेर्वा।।

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### STANDARD OPERATING PROCEDURE OF DRUG.

- Palash pushp bharad 1part(1250gms) + water 16 part (20 lit) was taken and kwath

- (5 lit) was prepared on low flame.
- After that the kwath was reheated in a copper vessel till the complete evaporation of
- water takes place and it is turned into Avaleha (1730 gm).
- 410 Vartis were prepared from Avaleha with help of thumb and index finger.
- Each varti is approximately 3 gram of weight.
- Prepared varti was stored at room temperature in airtight plastic container.

### NEOSPORIN-H EYE OINTMENT

- Neosporin-H eye ointment (5gm)

**CONTENT** – Neomycin,

Polymyxin B Sulphate,

Bacitracin,

Zinc,

Hydrocortisone

**ACTION**- Anti-inflammatory,

Antibiotic.

### METHODOLOGY

- Study topic was selected by referring various Samhitas, Research papers and Previous
- work done on Blepharitis, Praklinnavartma, Palash pushp and Anjan procedure.
- After obtaining permission from Ethical committee, a randomized control clinical study
- was carried out.
- Palash pushp bharad was purchased from well known Aushadhalay
- Identification and Authentication of Palash Pushp Bharad was done at University Pune
- Botany Department.
- Palash pushp Raskriya Varti was prepared by standard method of Raskriya Varti as
- mentioned in Sushrut samhita in the Pharmacy.
- Prepared drug was stored in plastic airtight container.
- Standardization of Palash pushp varti was done in Bhide lab, Pune.
- After 28 days varti was tested for Total Fungal Count.
- Special case paper was prepared with written consent of a patient.
- All patients having Sign and Symptoms of Blepharitis were thoroughly examined for

- any local or systemic pathology according to the proforma made for the study.
- By slit lamp examination at every follow up, observations were noted.

This study includes 30 patients (Prevalence rate 0.02% year 2014-15) that were divided randomly into 2 groups

#### **A group (Trial) – 15 patients**

- These patients were treated with Palash Pushp Raskriya Varti Anjan
- Local application- B.D. for 15 days daily.
- Number of required varties with 2.5ml distilled water bottles are provided to the patients on 0<sup>th</sup>, 3<sup>rd</sup>, and 7<sup>th</sup> in a airtight plastic bag.

#### **B group (Control) – 15 patients**

- These patients were treated with Neosporin-H eye ointment
- Local application B.D. for 15 days daily.
- The drug was purchased from market and provided to patient.

### **INCLUSION AND EXCLUSION CRITERIA**

#### **INCLUSION CRITERIA**

- Patients having signs and symptoms of Blepharitis i.e. Itching of eyes, Lid oedema, Foreign body sensation in eyes, Redness of eyes.
- Patients having age group above 10 yrs & below 60 yrs.
- Irrespective of Gender, Religion & Occupation.

#### **EXCLUSION CRITERIA**

- Patients suffering from any other ocular disorders.
- Recently operated(3 Months before) patients for eye diseases.
- One eyed patients.

#### **SOURCE OF DATA**

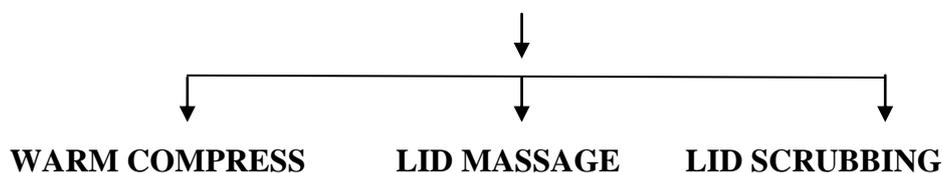
O.P.D. based patients Netra roga Department of Shalaky Tantra Bharati Vidyapeeth Medical Foundation's Ayurveda Hospital Pune-411043.

#### **FOLLOW UP**

Follow up was done on 3<sup>rd</sup>, 7<sup>th</sup> and 15<sup>th</sup> day

**Instructions given to patient of both groups before starting treatment**

- Eye make up and wearing contact lenses were discontinued during treatment period.
- If any allergic reaction seen after application of ointment then stop the treatment and come for follow up.
- All patients were trained to apply the measures of lid hygiene.

**LID HYGIENE**

- Patient himself/herself or his/her relative or friend are trained to do Anjan karma or eye ointment application technique on 0<sup>th</sup> day and are given the instructions to repeat the same procedure at home two times in a day upto next follow up.

**PROCEDURE OF APPLICATION OF ANJAN****Poorva karma**

- Wash hands with water.
- Wipe hands with clean cotton cloth.
- Paste for Anjan is prepared by rubbing Varti on stone grinder with sufficient amount of distilled water.
- Use One varti at one time.

**Pradhan karma**

- Lower lid held firmly with left hand so the patient can not blink.
- Apply obtained paste with ring finger of right hand over the lower lid margin then close the eyes and mildly rotate the eyeball.

**Paschat karma**

- After watering stops from eyes (approximately after 8-10min) eyes washed with Lukewarm water and wipe with clean cotton cloth.

**PROCEDURE OF APPLICATION OF EYE OINTMENT**

- Clean the hands with water
- Wipe hands with clean cotton cloth.

- Take off the tube cap.
- Take sufficient amount of ointments on tip of index finger and rubbed on the eyelids with the eyes closed, ointment should not be instilled in the eye. There is no any problem if little bit of medicine gets in the eye.
- Replace the cap on the tube.
- Wash the hands with water
- After half an hour eyes washed with lukewarm water and wipe with clean cotton cloth.

### ASSESSMENT CRITERIA

Observation was noted in tabular form according to the following criteria.

Sr. No.	Sign and symptom	0 <sup>th</sup>	3rd	7th	15th
1.	Itching				
2.	Lid edema				
3.	F.B. sensation				
4.	Redness				

### GRADATION FOR ASSESSMENT OF ITCHING OF EYES

0	Normal	Absent
+	Mild	Occasionally Present
++	Moderate	Frequently Present
+++	Severe	Continuously Present

### GRADATION FOR ASSESSMENT OF F.B. SENSATION IN EYES

0	Normal	No foreign body sensation
+	Mild	Present but not distressing
++	Moderate	Distressing but not distressing with daily life
+++	Severe	Very distressing and interfering with daily life

### GRADATION FOR ASSESSMENT OF REDNESS OF EYES

0	Normal	No redness
+	Mild	Some vessels are detected
++	Moderate	Individual vessels are detected
+++	Severe	Individual vessels are not easily detected

### GRADATION FOR ASSESSMENT OF LID EDEMA.

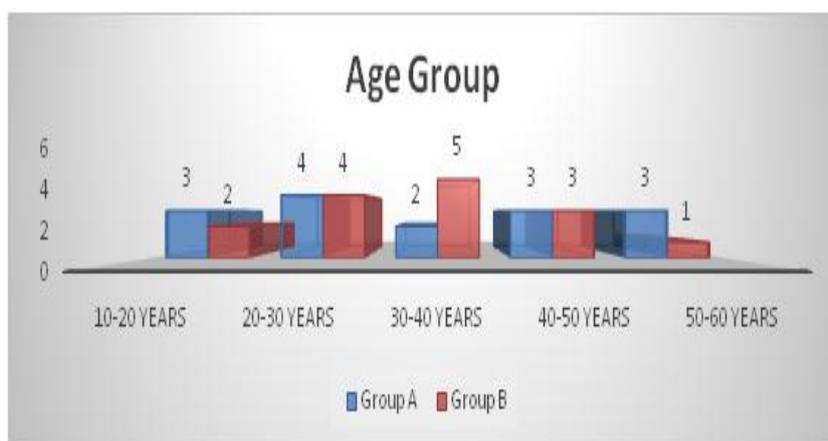
0	Normal	No edema
+	Mild	Slight edema
++	Moderate	Cover well over lid
+++	Severe	Much elevated lid

**OBSERVATIONS**

To assess the result of the study, according to the case paper proforma findings was recorded before, during and after completion of the treatment in the patients with blepharitis. 30 patients was selected for the study, wilcoxon signed rank test has been applied to know the significance of subjective parameter converting into quantitative data. Mean was used to see whether biochemical parameters are clinical significant or not. For comparison of both the groups Mann Whitney U test is used.

**Table 1: Number and percentage wise distribution of patients according Age.**

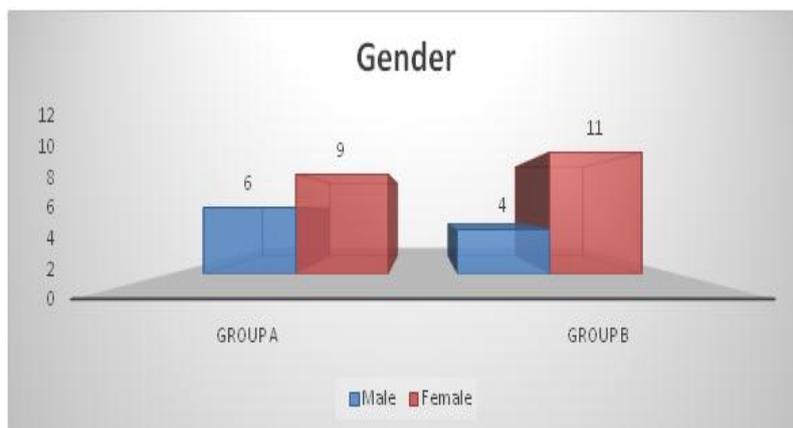
Age Group	Group A		Group B	
	Frequency	Percentage	Frequency	Percentage
10-20 Years	3	20.0	2	13.3
20-30 Years	4	26.7	4	26.7
30-40 Years	2	13.3	5	33.3
40-50 Years	3	20.0	3	20.0
50-60 Years	3	20.0	1	6.7
TOTAL	15	100.0	15	100.0

**Fig. 1: Bar diagram showing distribution of patients according Age.**

In trial group maximum patients were found from the age group of 20-30yrs, whereas in control group maximum patients were found from the age group of 30-40yrs.

**Table 2: Number and percentage wise distribution of patients according Gender.**

Gender	Group A		Group B	
	Frequency	Percentage	Frequency	Percentage
Male	6	40.0	4	26.7
Female	9	60.0	11	73.3
TOTAL	15	100.0	15	100.0

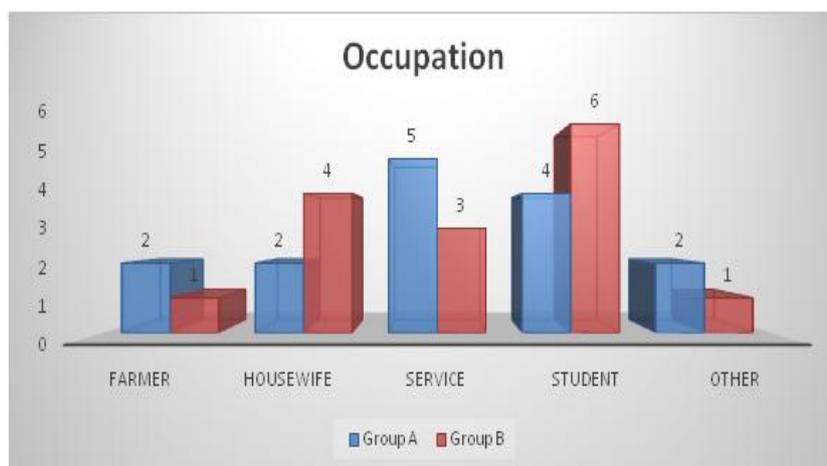


**Fig. 2: Bar diagram showing distribution of patients according Gender.**

In both groups maximum patients were female.

**Table 3: Number and percentage wise distribution of patients according Occupation.**

Occupation	Group A		Group B	
	Frequency	Percentage	Frequency	Percentage
Farmer	2	13.3	1	6.7
Housewife	2	13.3	4	26.7
Service	5	33.3	3	20.0
Student	4	26.7	6	40.0
Other	2	13.3	1	6.7
TOTAL	15	100.0	15	100.0



**Fig. 3: Bar diagram showing distribution of patients according Occupation.**

In trial group maximum patients were from the service class while in control group maximum patients were from student class.

## STATISTICAL ANALYSIS OF SYMPTOMS

Table 4: Effect on Itching of eyes in 2 groups.

ITCHING	Mean		Wilcoxon Signed Rank W	P-Value	% Effect	Result
	BT	AT				
Group A	2.3	1.4	-2.889 <sup>a</sup>	0.004	40.0	Significant
Group B	2.4	0.5	-3.453 <sup>a</sup>	0.001	80.6	Significant

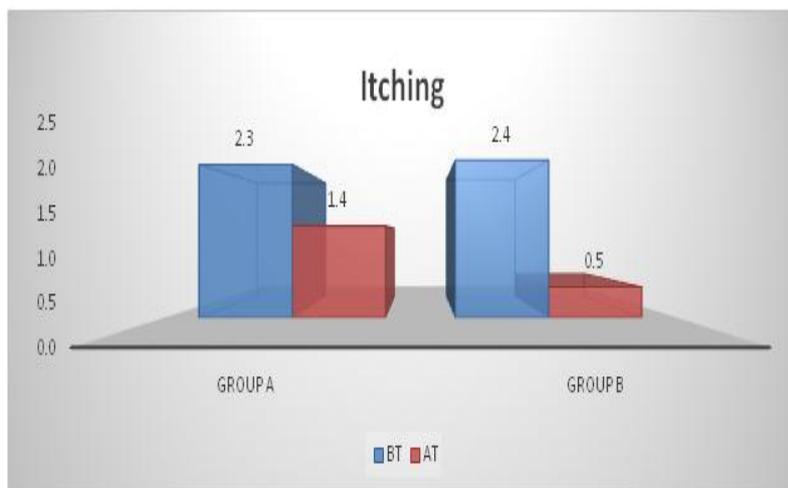


Fig. 4: Bar diagram showing percentage wise effect on Itching of eyes in 2 groups.

From above table we can observe that P-Values for both groups are less than 0.05 hence we can conclude that effect observed in both groups are significant. But Neosporin-H Eye ointment is more significant than Palash pushp raskriya varti anjan.

Table 5: Effect on Lid oedema in 2 groups.

LID OEDEMA	Mean		Wilcoxon Signed Rank W	P-Value	% Effect	Result
	BT	AT				
Group A	1.7	1.0	-2.810 <sup>a</sup>	0.005	42.3	Significant
Group B	1.3	0.2	-3.017 <sup>a</sup>	0.003	84.2	Significant

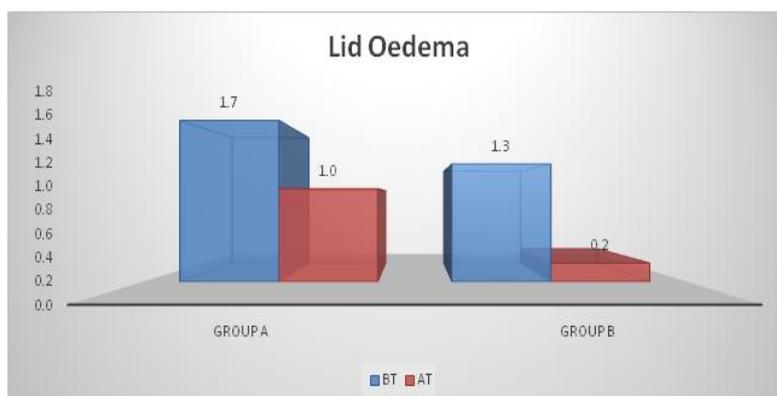
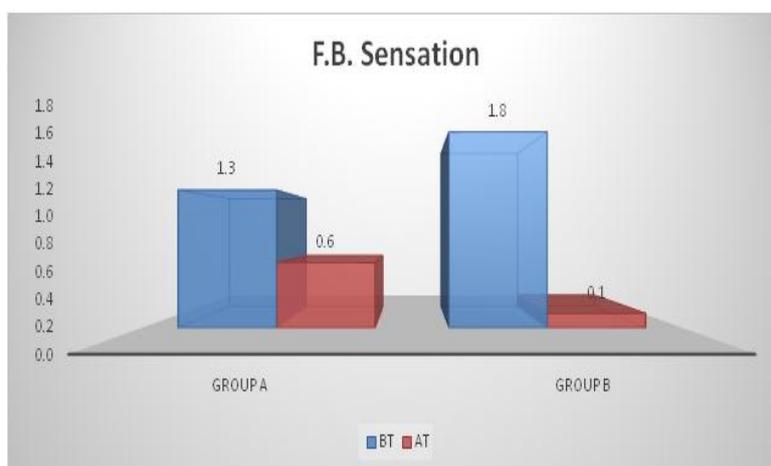


Fig. 5: Bar diagram showing percentage wise effect on Lid oedema in 2 groups.

From above table we can observe that P-Values for both groups are less than 0.05 hence we can conclude that effect observed in both groups are significant. But Neosporin-H Eye ointment is more significant than Palash pushp raskriya varti anjan.

**Table 6: Effect on Foreign body sensation in eyes in 2 groups.**

F.B. SENSATION	Mean		Wilcoxon Signed Rank W	P-Value	% Effect	Result
	BT	AT				
Group A	1.3	0.6	-2.887 <sup>a</sup>	0.004	52.6	Significant
Group B	1.8	0.1	-3.360 <sup>a</sup>	0.001	92.6	Significant

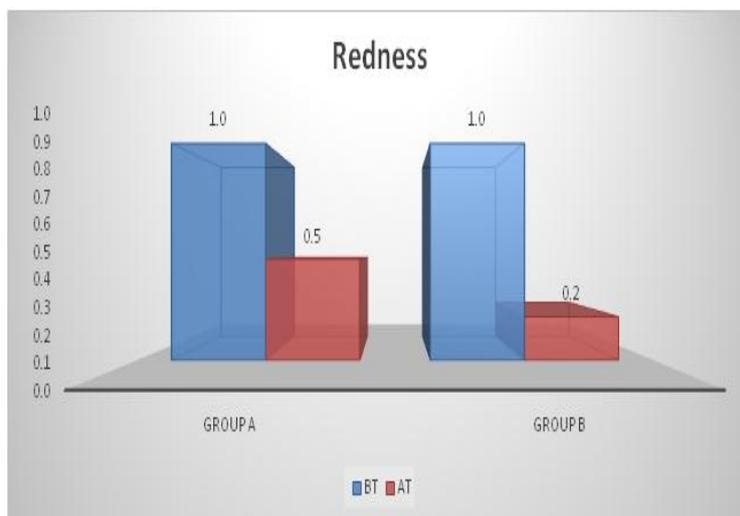


**Fig. 6: Bar diagram showing percentage wise effect on Foreign body sensation in eyes in 2 groups.**

From above table we can observe that P-Values for both groups are less than 0.05 hence we can conclude that effect observed in both groups are significant. But Neosporin-H Eye ointment is more significant than Palash pushp raskriya varti anjan.

**Table 7: Effect on Redness of eyes in 2 groups.**

EDNESS	Mean		Wilcoxon Signed Rank W	P-Value	% Effect	Result
	BT	AT				
Group A	1.0	0.5	-2.828 <sup>a</sup>	0.005	53.3	Significant
Group B	1.0	0.2	-3.207 <sup>a</sup>	0.001	80.0	Significant



**Fig. 7: Bar diagram showing percentage wise effect on Redness of eyes in 2 groups.**

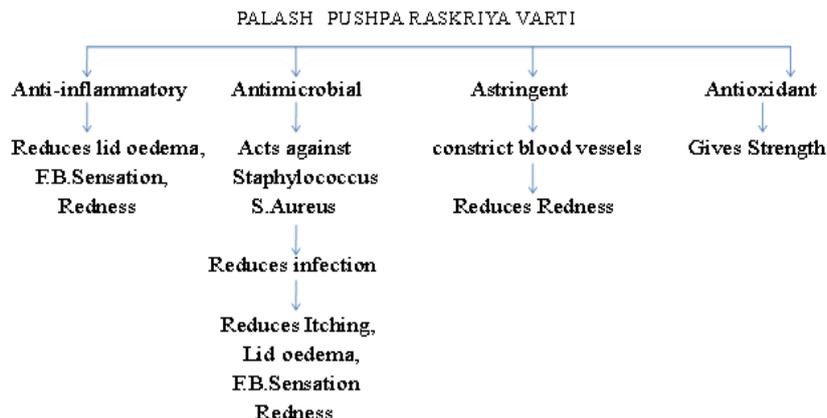
From above table we can observe that P-Values for both groups are less than 0.05 hence we can conclude that effect observed in both groups are significant. But Neosporin-H Eye ointment is more significant than Palash pushp raskriya varti anjan.

#### Comaparison Between Group A and Group B.

	Group	N	Mean Rank	Sum of Ranks	Mann-Whitney U	P-Value
ITCHING	Group A	15	11.13	167.00	47.000	0.004
	Group B	15	19.87	298.00		
	Total	30				
LID OEDEMA	Group A	15	13.73	206.00	86.000	0.039
	Group B	15	17.27	259.00		
	Total	30				
F. B. SENSATION	Group A	15	10.70	160.50	40.500	0.002
	Group B	15	20.30	304.50		
	Total	30				
REDNESS	Group A	15	13.73	206.00	86.000	0.020
	Group B	15	17.27	259.00		
	Total	30				

For comparison between Group A and Group B, we have used Mann Whitney U-test. From above table we can observe that P-Values for all parameters are less than 0.05 hence we conclude that there is significant difference in effect of Group A and Group B. Further we can observe that mean rank of Group B is greater than Group A hence we conclude that Group B is more effective than Group A.

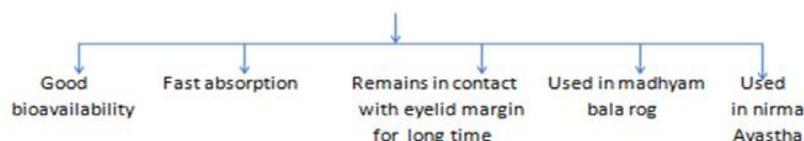
**Probable Mode Of Action Of Palash Pushpa According To Modern Science**



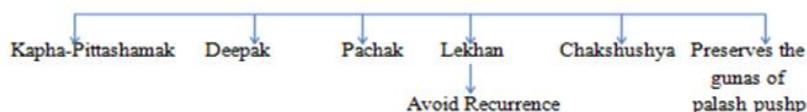
## DISCUSSION

Blepharitis is a common condition which is usually bilateral, symmetrical and affects all age groups. It is a subacute or chronic condition which is challenging problem for modern medical science, because of the poor correlation between signs and symptoms, the uncertain etiology and mechanisms of the disease makes management difficult. The inference of modern medical science is that there are little evidences to support any particular treatment protocol for Blepharitis. Lifelong treatment may be necessary and a permanent cure is unlikely but control of symptoms is usually possible. Although remission may be achieved, recurrence is common particularly if treatment is stopped. Thus an attempt was made to understand the disease in a better way and to assess the response of Palash pushp raskriya varti in management of Blepharitis.

### RASKRIYA VARTI ANJAN



### TAMRA PATRA



The drug of Palash Pushp Raskriya Varti –Palash pushp is having Katu-Tikta-Kashay ras, Madhur vipak, Sheet virya, Snigdha, Laghu gunas and Shothagna, Kandughna, Grahi, Stambhan and Vrushya karma.

Palash pushp is kaphaghna due to its Katu, Tikta ras and Laghu guna. Also it is pittaraktashamak due to its Kashay rasa, Madhur Vipaka, Sheet virya and snigdha guna. With the help of above properties Palash pushp acts on prakupit kapha-pitta-rakta doshas which are responsible for praklinna vartma.

Lakshan of prakupit kaph is kandu, katu-tikta rasa of palash pushp reduces prakupit kapha, so it acts as Kandughna, It is having shothaghna property because of kashay ras and sheet guna it absorbs dusht kapha, kleda so oedema reduce, Because of kashay rasa sheet virya and madhur vipak, by constricting blood vessels it reduces redness and gives soothing effect also reduces foreign body sensation. It also having vrishya property because of mahura, sheet, snigdha gunas, it gives bala to chukshurendriya. The pharmacological actions of Palash pushp are like Anti-inflammatory, Antimicrobial, Astringent and Antioxidant so it reduces itching of eyes, lid oedema, foreign body sensation in eyes and redness in eyes and also gives power to eye.

For making varti palash pushp kwath is reheated in tamra patra till the avaleha formed as mentioned in Sushrut Samhita. Tamra patra is having Rasa- Kashay, Tikta; Vipak- Madhur; Virya- ushna; Karya- Deepan, Vish prabhav nahak, Pitta-Raka nashak, Netrya and Krimi rog nashak. Guna –Snigdha, Lekhan. with the help of these properties it reduces lakshanas of praklinna vartma also because of lekhan karma, it does lekhan of dushta kapha, kled and mamsa and avoid recurrence of the disease.

Anjan in the form of raskriya is mentioned by Sushrutacharya, Raskriya Anjan has thick consistency so it remains in contact to cell for long time consequently has high bioavailability and efficacy of the drug at local site. Also anjan is indicated in madhyam bala ragas and in niram awasthaas praklinna vartma is madhaym bala roga with niram awastha.

By keeping following facts in mind Palash pushp raskriya varti anjan was selected for the present study.

- Palash Pushp has Kapha-Pitta-Raktashamak properties and Praklinna vartma also has kapha dosha dominance with anubandh of Pitta-Rakta dosha.

- Palash Pushp is easily and abundantly available so pure drug can be obtained at less cost.
- Manufacturing cost of varti is also less So Palash pushp raskriya varti is economically affordable to patients.
- It is easy to use as a Anjana, less time consuming procedure and does not interfere daily routine of the patients.
- To minimize the recurrence of the disease and to achieve the maximum efficacy of the treatment this topic was selected for research.

In this study it was observed that Palash pushp raskriya varti and Neosporin-H eye ointment have significant effect in all the parameters in Blepharitis. But as compared to both groups, Neosporin-H eye ointment has more significant effect in Itching of eyes, lid oedema, Foreign body sensation of eyes, Redness of eyes.

- The incidence of Blepharitis was observed more in 20-30 age group
- It is observed that students and service peoples were more affected.
- It is observed that female patients were affected more than male.
- Since p-value of every sign and symptoms of Blepharitis was found to be less than 0.05. Hence we can say that significant relief in both trial and control group.
- No any side effects was observed in patients during study.

## CONCLUSION

- The entire review of Modern as well as Ayurvedic literature on Blepharitis and Praklinna vartma revealed that the clinical features of Blepharitis can be somewhat correlated with Praklinna vartma.
- In Both the groups, Control group is more effective than Trial group.
- But by Trial group Blepharitis can be managed with conservative line of treatment in the initial stages.
- During treatment both group patients had given tips to maintain lid hygiene(warm compress, lid massage, lid scrubbing),avoid eye makeup and wearing of contact lenses.
- Overall relief provided by Control group was better than Trial group in management of Blepharitis.
- As Neosporin-H eye ointment is a combination of antibiotic and steroid, its long term use is not indicated, but Palash pushp raskriya varti can be used for the longer duration of time.
- No untoward adverse effect was found after application of anjana.

- In future the work may be valuable clue for further study.

#### **FURTHER SCOPE OF STUDY**

- Study can be done on large sample size and longer duration to establish the effect of palash pushp raskriya varti anjan on sign and symptoms as well as on recurrence of Blepharitis.
- Study can be done on Blepharitis by using different kriyakalpa's other than anjan

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