



RESEARCH ARTICLE

A COMPARATIVE CLINICAL STUDY ON THE EFFICACY OF PRATISARANA WITH TRIPHALADI RASAKRIYA AND ELA CHOORNA AFTER DARVI SEKA IN THE MANAGEMENT OF KRIMI GRANTHI W.S.R. TO BLEPHARITIS

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ABSTRACT

*Krimi Granthi* is explained as one of the nine *Sandhigata netra roga*. It is a common clinical condition comes across in general ophthalmic practice, which can be correlated to Blepharitis. Its cardinal features are *Kandu*, *Daha*, *Pakshmapota* and *Pooyasrava Granthi* with *Krimi*. Study carried out to evaluate the efficacy of *Pratisarana* with *Triphaladi Rasakriya & Ela Choorna* after *Darvi Seka* in the Management of *Krimi Granthi*. 20 patients in each group fulfilling the inclusion criteria of *Krimi Granthi* were selected from O.P.D and I.P.D of *Shalaky Tantra*, SKAMCH & RC, Bangalore. *Darvi Seka* done for 5 days in both the groups followed with *Triphaladi Rasakriya Pratisarana* and *Ela Choorna Pratisarana* in each group respectively for 7 days. Overall the effect of treatment was statistically highly significant After *Darvi Seka*, After *Pratisarana* and at Follow up on all the parameters. Though both groups showed highly significant differences, within the group analysis however on comparing the t- values it can be inferred that Group A has showed better results when compared to Group B on Burning sensation, Congestion and Scaling. Whereas on Itching, Lacrimation, photophobia and lid margin edema Group B has showed better result than Group A. But at the time of follow up Group A has showed better result than group B. *Triphaladi Rasakriya Pratisarana* was Marginally better than *Ela choorna Pratisarana*, due to the combination of *Chakshusya*, *Kandugna*, *Vranaropana* drugs which proved beneficial for sustained duration and no any adverse effects noted in the both groups.

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INTRODUCTION

*Krimi Granthi* is one of the *sandhigata netra roga* (Susrutha, 2012) which is characterized by *Kandu*, *Osha*, *Pakshmapota*, *Pooyasrava* and *Granthi*. These similar symptoms are seen in Blepharitis like deposition of whitish material (soft scales) at the lid margin associated with mild discomfort, irritation, itching, occasional watering and falling of eyelashes. The word originates from the Greek word "blepharos", which means "eyelid" and the Greek suffix "it is", which means inflammation (Rodolfo and Rodriguez). Even though Blepharitis is one of the most common disorders encountered in eye clinic, inadequate prevalence or incidence data exist. Some reports indicate that it is present in almost 47 percent of ophthalmic patients (Rodolfo and Rodriguez). Blepharitis is often misdiagnosed because of co-morbidity with other ocular surface disease like dry eye disease and allergic conjunctivitis.

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Also Blepharitis can coexist with various dermatologic conditions including Rosacea, Eczema and Seborrheic dermatitis. Exogenous irritants and allergens may exacerbate both forms of Blepharitis. Patients over the age of 18 are more likely to be affected, but the disease is also found in children (Rodolfo and Rodriguez). It is amazing that there is less research carried out in this irritating problem. Very few medicines are available today but do not offer a permanent cure. Hence there is need in finding out a safer remedy to give permanent solution for this burning problem. *Krimi Granthi* is said as one of the *Bhedana Sadhya Vyadhi* in classics. *Acharya Sushruta* suggested the *Shastra Karma* should be the last option if *Bheshaja*, *Kshara* and *Agnikarma* get fail. Hence *Pratisarana Karma* a simple procedure is selected to evaluate its role in the management of *Krimi Granthi*. Before *bhedana samyak swinne* has been mentioned by Acharya's, so *Darvi seka* has been selected which is said as *Sarva Netra Rogahara* (Sri Indradeva Tripathi, 1994). In this regard while exploring *Ayurvedic* classics, we come across many *Pratisarana yogas*. '*Triphaladi Rasakriya*' has been explained by *Sushruta Acharya* and *Charaka Acharya* mentioned *Ela Choorna*

*Anjana* in the treatment of *Krimi Granthi*. It is economic and contains easily available drugs like *Triphala*, *Tuttha*, *Kaseesa*, *Saindhava* (Acharya) and *Ela beeja* and *Aja mutra* (Acharya Vidyardhara Shukla and Ravi Dutt Tripathi). Hence *Triphaladirasakriya* and *Ela choorna* has been selected for the Pratisarana in the present clinical study to evaluate their efficacy in the management of *Krimi Granthi* with special reference to Blepharitis.

### Objectives of the study

- To evaluate the efficacy of *Darvi Seka*.
- To evaluate the efficacy of *Triphaladi Rasakriya Pratisarana* after *Darvi Seka* in the management of *Krimi Granthi* w.s.r. to Blepharitis.
- To evaluate the efficacy of *Ela Choorna Pratisarana* after *Darvi Seka* in the management of *Krimi Granthi* w.s.r. to Blepharitis.
- To compare and evaluate the clinical efficacies of both the groups.

## MATERIALS AND METHODS

- Study design

Randomized clinical study.

- Sampling technique

The subjects who fulfill the inclusion and exclusion criteria and complying the informed consent (IC) were selected using random sampling technique.

- Sample size

- It is a comparative clinical study where in 40 Patients diagnosed as *Krimi Granthi* of either sex were randomly assigned into two groups i.e., Group A and Group B, each comprising minimum of 20 patients.
- A case Performa containing all the necessary details pertaining to the study was prepared.

### Diagnostic criteria

- Patients presenting with the clinical features of *Krimi Granthi*.
- Patients presenting with signs and symptoms of Blepharitis.
- Through Slit lamp bio microscopy- presence of Scaling, Congestion, Edema of Eyelids.

### Inclusion criteria

- Patients presenting with the clinical features of *Krimi Granthi*.
- Patients presenting with signs and symptoms of Blepharitis
- Patient with in the age group between 10 to 80 years.

### Exclusion criteria

- Associated with psoriasis and other skin diseases.
- Posterior Blepharitis
- Patients with systemic disorders that may interfere with the course of the study.

- Patients suffering with complications such a Blepharokeratoconjunctivitis.

### Intervention:

Group	Chikitsa	Avadhi
A	<i>Darvi Seka</i> Duration: 300 <i>Matrakala</i> for 5 days and from 6 <sup>th</sup> day <i>Pratisarana</i> with <i>Triphaladi Rasakriya</i> Duration: 3 minutes for 7 consecutive days.	12 Days
B	<i>Darvi Seka</i> Duration: 300 <i>Matrakala</i> for 5 days and from 6 <sup>th</sup> day <i>Pratisarana</i> with <i>Ela Choorna</i> Duration: 3 minutes for 7 consecutive days.	12 Days

### *Darvi Kashaya*

- *Darvi* - 1 part (192gms)
- *Jala* / Water - 16 parts ( 3072 ml)
- *Madhu* / Honey - 1/4th parts (48ml)

### Method of preparation of *Kashaya*

- In a clean vessel 192 gms of *Darvi* with 3072 ml of water.
- The mixture was boiled on a low flame and reduced to 1/8<sup>th</sup> part.
- This *Kashaya* was filtered and kept for cooling.
- *Madhu* was added just before the procedure.

### *Triphaladi Rasakriya*

- *Jala* - 48 Liters
- *Amalaki* - 2 Kilograms
- *Haritaki* - 2 Kilograms
- *Vibhitaki* - 2 Kilograms
- *Saindhava lavana* - 50 gms
- *Shuddha Tutta* - 50 gms
- *Shuddha Kasisa* - 50 gms
- In a clean container 48 liters of water, added with 2 kgs each of coarsely powdered *Amalaki*, *Haritaki* and *Vibhitaki*, boiled till it reduced to 1/3rd of the initial quantity i.e., 12 liters, with continuous stiring.

Filtered *Kashaya* was again kept for boiling; stirring continuously till it attained thick consistency. Then finely powdered *Saindhava Lavana*, *Shuddha Kasisa* and *Shuddha Tutta* were added, continuous stirring was done till *Rasakriya* consistency was achieved.

- *Prakruta Rasa*, *Ganda* and *Varna* of the drugs used were observed
- Kept undisturbed till it attains to room temperature and then it was stored in the clean air tight glass container.

### *Ela Churna*

- *Ela beeja* soaked in *aja mutra* for three days, where *aja mutra* was replaced with fresh *ajamutra* on daily bases. 4<sup>th</sup> day *ela beeja* was filtered and dried completely under the shade and powdered. Fine powder was collected and stored in air tight container.

### Assessment criteria

- An assessment criteria was designed based on subjective and objective parameters. The assessment was done

## Gradation index

Parameter	0	1	2	3
<b>Itching of eyelids (Kandu)</b>	No itching	Occasional itching sensation	Intermittent itching sensation which requires rubbing of eyes	Most of the time intolerable itching which would require significant eye rubbing
<b>Burning sensation (Daha)</b>	No burning sensation	Occasional burning sensation	Intermittent burning sensation	Most of the time burning sensation
<b>Lacrimation (Srava)</b>	No lacrimation	Occasionally, tear flow out of eyes	Intermittent out flow of tears 4-5 times / day on exposure to wind or doing some work	Most of the time out flow of tears
<b>Photophobia (Prakasha Asahishnuta)</b>	No photophobia	photophobia on exposure to very bright light	photophobia on exposure to torch light	photophobia experienced even in daylight
<b>Falling of eyelashes (Pakshma Hani)</b>	No falling of eyelashes	No Change in the pattern of arrangements	falling of eye lashes with loss of density in arrangements of hair	Wide gaping between the lashes
<b>Congestion of lid margin (Raga)</b>	No Congestion	Congestion, visible on slit lamp examination	Congestion, visible on torch light examination	Congestion, visibly evident on direct inspection
<b>Scaling (Upadeha)</b>	No scaling	scaling, visible on slit lamp examination	scaling, visible on torch light examination	scaling visibly evident on direct inspection
<b>Lid Margin oedema (Shopha)</b>	No lid margin oedema	Lid margin oedema visible on slit lamp examination	Lid margin oedema visible on torch light examination	Lid margin oedema visibly evident on direct inspection

- Before Treatment (BT) - Day 1
- After *Seka* (AT1) – 6<sup>th</sup> day
- After *Pratisarana* (AT2) – 13<sup>th</sup> day
- At Follow up (AF) - 19<sup>th</sup> day

## Statistical analysis

- For the statistical analysis the data obtained in both the groups were recorded, presented in tabulations and drawings.
- The Statistic Mean, Standard Deviation (SD), Standard error of Mean (SEM) and Standard Error of difference between two means (SE) were employed for descriptive statistics.
- To infer the clinical study and draw conclusion, paired 't'-test was applied for within the group analysis and unpaired 't'-test was applied for between the group analysis.

## Observation

Parameters	Category	Value	%
Age	41-50 years	11	27.5
Gender	Females	25	62.5
Religion	Hindu	30	75
Marital status	Married	30	75
Educational status	Under graduates	19	47.5
Socio economic status	Middle class	25	62.5
Occupation	House wife	16	40
	Field workers & students each	8	20
Diet	Mixed Diet	26	65
Duration of Complaint	≤ 2 Months	13	32.5
	>2months to <_ 4 Months	11	27.5
Nidana	Amla, Ushna & Tikshna Dravya Sevana	20	50
	Ratrijagarana	19	47.5
	Exposure to dust & Smoke	17	42.5
Lakshanas	Kandu	40	100
	Daha	31	77.5
	Shoppha	26	65

## RESULTS

## Effect of Treatment on Edema within Group A

Group A	Mean Diff	SD	PSE	T value	P value	Remarks	
Itching	BT-AT1	0.45	0.51	0.11	3.94	<0.001	HS
	BT-AT2	1.25	0.44	0.09	12.58	<0.001	HS
	BT-AF	1.55	0.51	0.11	13.58	<0.001	HS
Burning Sensation	BT-AT1	0.82	0.80	0.19	4.19	<0.001	HS
	BT-AT2	1.17	0.63	0.15	7.62	<0.001	HS
	BT-AF	1.47	0.71	0.17	8.45	<0.001	HS
Lacrimation	BT-AT1	0.63	0.50	0.15	4.18	<0.001	HS
	BT-AT2	1.18	0.60	0.18	6.49	<0.001	HS
	BT-AF	1.36	0.50	0.15	8.96	<0.001	HS
Photophobia	BT-AT1	0.61	0.65	0.18	3.41	<0.01	HS
	BT-AT2	1	0.57	0.16	6.24	<0.001	HS
	BT-AF	1.15	0.37	0.10	11.07	<0.001	HS
Congestion	BT-AT1	0.77	0.44	0.14	5.29	<0.001	HS
	BT-AT2	1.33	0.5	0.16	8	<0.001	HS
	BT-AF	1.44	0.52	0.17	8.22	<0.001	HS
Scaling	BT-AT1	0.63	0.67	0.20	3.12	<0.01	HS
	BT-AT2	1	0.63	0.19	5.24	<0.001	HS
	BT-AF	1.45	0.68	0.20	7.01	<0.001	HS
Edema	BT-AT1	0.53	0.51	0.14	3.74	<0.0	HS
	BT-AT2	1.15	0.55	0.15	7.49	<0.001	HS
	BT-AF	1.38	0.50	0.14	9.85	<0.001	HS

## Effect of Treatment on Edema within Group B

Group B	Mean Diff	SD	PSE	T value	P value	Remarks	
Itching	BT-AT1	0.55	0.60	0.13	4.06	<0.001	HS
	BT-AT2	1.75	0.55	0.12	14.22	<0.001	HS
	BT-AF	1.8	0.61	0.13	13.07	<0.001	HS
Burning Sensation	BT-AT1	0.57	0.51	0.14	4.01	<0.001	HS
	BT-AT2	1.21	0.57	0.16	7.56	<0.001	HS
	BT-AF	1.71	0.82	0.22	7.48	<0.001	HS
Lacrimation	BT-AT1	0.66	0.49	0.14	4.69	<0.001	HS
	BT-AT2	1.16	0.38	0.11	10.38	<0.001	HS
	BT-AF	1.58	0.51	0.14	10.65	<0.001	HS
Photophobia	BT-AT1	1.16	0.75	0.30	3.79	<0.01	HS
	BT-AT2	1.5	0.54	0.22	6.70	<0.001	HS
	BT-AF	1.66	0.51	0.21	7.90	<0.001	HS
Congestion	BT-AT1	0.83	0.40	0.16	4.99	<0.001	HS
	BT-AT2	0.83	0.40	0.16	4.99	<0.001	HS
	BT-AF	1	0.63	0.25	3.87	<0.001	HS
Scaling	BT-AT1	0.66	0.5	0.20	3.27	<0.01	HS
	BT-AT2	0.77	0.44	0.18	4.31	<0.001	HS
	BT-AF	1.44	0.52	0.21	6.71	<0.001	HS
Edema	BT-AT1	0.53	0.51	0.14	3.74	<0.01	HS
	BT-AT2	1	0.40	0.11	8.83	<0.001	HS
	BT-AF	1.30	0.48	0.13	9.81	<0.001	HS

## Effect of Treatment in between the Groups

Parameter	Group	Mean Diff	SD	SE	PSE	T value	P value	Remarks	
Itching	BT-AT1	A	0.45	0.51	0.11	0.85	>0.05	NS	
		B	0.55	0.60	0.13				
	BT-AT2	A	1.25	0.44	0.09	0.15	3.16	<0.01	HS
		B	1.75	0.55	0.12				
	BT-AF	A	1.55	0.51	0.11	0.11	2.11	<0.05	S
		B	1.8	0.61	0.13				
Burning Sensation	BT-AT1	A	0.82	0.80	0.19	0.23	1.05	>0.05	NS
		B	0.57	0.51	0.14				
	BT-AT2	A	1.17	0.63	0.15	0.26	0.14	>0.05	NS
		B	1.21	0.57	0.16				
	BT-AF	A	1.47	0.71	0.17	0.26	0.86	>0.05	NS
		B	1.71	0.82	0.22				
Lacrimation	BT-AT1	A	0.63	0.50	0.15	0.20	0.14	>0.05	NS
		B	0.66	0.49	0.14				
	BT-AT2	A	1.18	0.60	0.18	0.21	0.07	>0.05	NS
		B	1.16	0.38	0.11				
	BT-AF	A	1.36	0.50	0.15	0.21	1.03	>0.05	NS
		B	1.58	0.51	0.14				
Photophobia	BT-AT1	A	0.61	0.65	0.18	0.33	1.63	>0.05	NS
		B	1.16	0.75	0.30				
	BT-AT2	A	1	0.57	0.16	0.27	1.81	>0.05	NS
		B	1.5	0.54	0.22				
	BT-AF	A	1.15	0.37	0.10	0.23	2.81	<0.05	S
		B	1.66	0.51	0.21				
Congestion	BT-AT1	A	0.77	0.44	0.14	0.22	0.25	>0.05	NS
		B	0.83	0.40	0.16				
	BT-AT2	A	1.33	0.5	0.16	0.23	2.12	<0.05	S
		B	0.83	0.40	0.16				
	BT-AF	A	1.44	0.52	0.17	0.31	1.14	>0.05	NS
		B	1	0.63	0.25				
Scaling	BT-AT1	A	0.63	0.67	0.20	0.26	0.11	>0.05	NS
		B	0.66	0.5	0.20				
	BT-AT2	A	1	0.63	0.19	0.24	0.92	>0.05	NS
		B	0.77	0.44	0.18				
	BT-AF	A	1.45	0.68	0.20	0.27	0.03	>0.05	NS
		B	1.44	0.52	0.21				
Edema	BT-AT1	A	0.53	0.51	0.14	0.20	0.37	>0.05	NS
		B	0.53	0.51	0.14				
	BT-AT2	A	1.15	0.55	0.15	0.19	0.80	>0.05	NS
		B	1	0.40	0.11				
	BT-AF	A	1.38	0.50	0.14	0.19	0.39	>0.05	NS
		B	1.30	0.48	0.13				

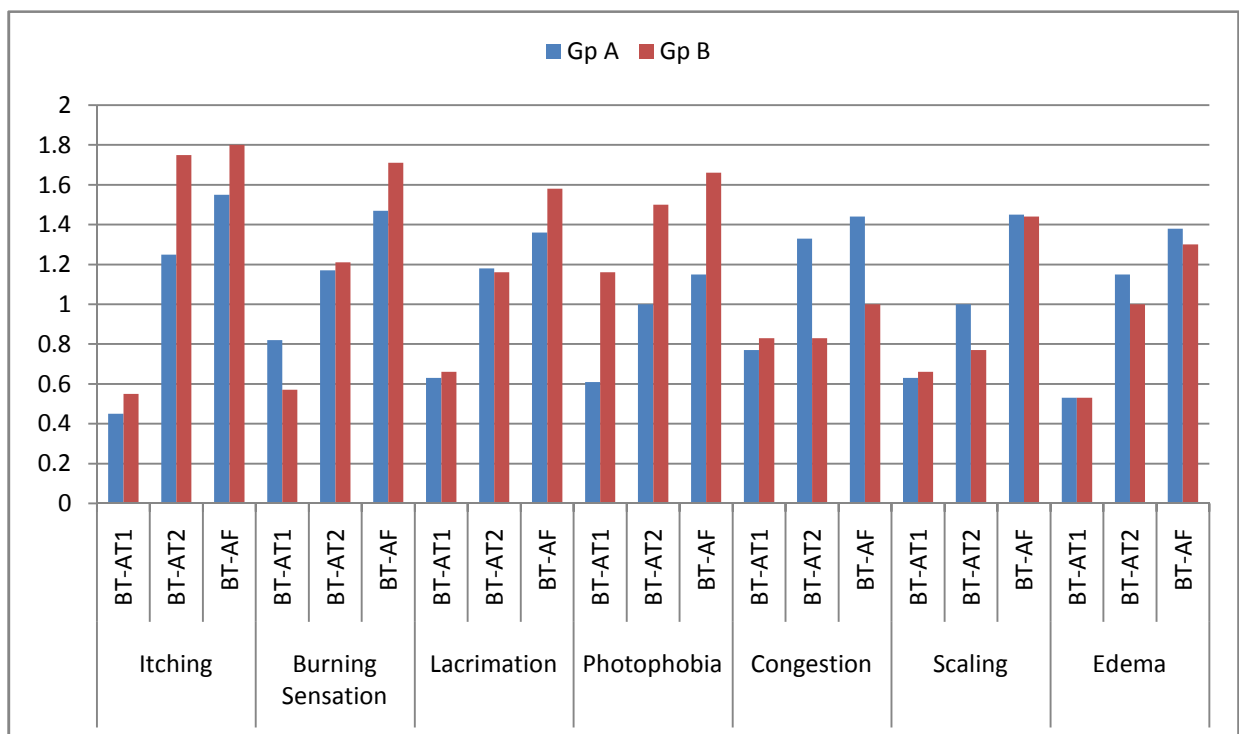


Fig.

## DISCUSSION

- *Krimi Granthi Chikitsa Sutra* being *Swedana*, *Bedhana* followed by *Pratisarana*. In the study *Bhedana* is expected to be occurred with the drugs which have similar effect with the *Pratisarana* procedure.
- *Seka* and *Pratisarana* were used as the *Shamana Chikitsa* for *Krimi Granthi*. The externally applied procedure like *seka* (irrigation) is mentioned among *shashti upakrama's* as the *bahir-parimarjana chikitsa* (External therapies) in *shotha* (swellings). The procedure is considered to be *apatarpana* in nature; hence is a suitable procedure in *amavastha* of *netra roga* for *pachana* of *doshas*. It is helpful in conditions where pathogenesis lies in glands of eyelids and pre-corneal surface.
- *Kashaya seka* acts as *lekhana* on this *kaphaja netra roga*. It is the *virya*, *karma* and *prabhava* of the drugs which acts, when comes in contact with the skin of the eyelids (*netra varitma*), *netra sandhi* and *siras* of *netra*.
- *Daruharidra Kashaya* : *Daruharidra* has the property like - *shothahara*, *vranaropaka*, *raktasodhaka*, *kaphagna*, *twakdoshara* and also useful in eye disorder. Therefore, by using this *darvi kashaya* for *seka*, signs and symptoms of *Krimi Granthi* (*Blepharitis*) were reduced.
- In the present clinical study, out of 43 patients who enrolled in the study, 3 discontinued as their complaints were reduced completely after 5 days of *seka*. So they did not turned back towards further *netra pratisarana* treatment.
- *Pratisarana*, there occurs local raise in temperature, which causes *vilyana* of *dosha's*, increase in blood circulation, *srothomukha vishodhana*, increase in the rate of absorption and relax the tense muscle which is actually needed to evacuate the glands, strengthen the structures involved.
- *Rasakriya* used for *Pratisarana* has high bioavailability in comparison to *Ela churna*. *Rasakriya* due to its thick consistency and it remains in contact to cell for long time and give maximum efficacy of the formulation.
- *Triphaladi Rasakriya* : Is mentioned in *netra roga chikitsa* has *lekhana* property. And also has *kashaya pradhana pancharasa* (*lavanvarjit*), *anushna veerya*, *madhur vipaka* and *laghu*, *ruksha*, *sara guna*. Being *tridosha hara*, *twakdoshahara*, *shrotoshodhan*, *shothahara*, *chakshushya*, *kandughna*, *raktaprasadak*, *krimighna*, *netra doshahara*.
- The pharmacological actions of *Triphala* are like anti-inflammatory, anti-bacterial, blood purifier action, immunomodulator action etc. These factors the drug have acted on the disease and also had long term effect.
- *Ela Choorna*: Has *lekhana* property. It has *tridoshahara*, *vatanulomana*, *pitta samsodhaka*, *dipana*, *netra roga*, *krimirogahara*, *shophahara*, *vishahara*, *kanduhara*, *nadi shodhaka* and corrects the vitiated *kapha doshas* by its *laghu ruksha guna*. Also *aja mutra* acts on *shleshma*, and causes the proper passage and elimination of *kleda* through *srotas* due to its *ushna veerya* it subsides *vitiates vata dosha*.

- *Ela choorna* has a property of antioxidant, antibacterial, anti -microbial & anti-inflammatory helps in relieving signs & symptoms.

## Conclusion

- Both the groups showed highly significant differences, within the group analysis however on comparing the t-values it can be inferred that Group A has showed better results when compared to Group B on Burning sensation, Congestion and Scaling. Whereas on Itching, Lacrimation, Photophobia and Lid Margin Edema Group B have showed better result than Group A. But at the time of follow up (FU) Group A has showed better result than group B. This can be concluded due to the combination of *Chakshusya*, *Kandhugna*, *Vranaropana* drugs which proved beneficial for sustained duration.
- Statistical analysis for falling of eye lashes could not be drawn because of the extremely small sample size of the data obtained (Group A- 4 patients and Group B- 2 patients).
- *Triphaladi rasakriya* and *Ela choorna* is proved to be cost effective, safe and better remedy for *Pratisarana* in *Krimi Granthi*.

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