WORLD JOURNAL OF PHARMACEUTICAL RESEARCH
SJIF Impact Factor 5.990
Volume 4, Issue 12, 1893-1902. Research Article ISSN 2277– 7105

CLINICAL STUDY ON *TARPANA KARMA* IN DRY EYE WSR. TO BLEPHARITIS (I.E. *KRIMIGRANTHI*) BY *JIVANTYADI* GHRITA

[*]Dr. Jitendra Kumar, [**]Dr. Purnima Rao, [***]Dr. Ajay Kr. Sharma, [****]Dr. B. Mukhopadhya

[*]Assistant Professor, Deptt. of Shalakya Tantra, Himalayiya Ayurvedic Medical College, Dehradoon.

[**]Assistant Professor, Deptt. of Kayachikitisa, Himalayiya Ayurvedic Medical College, Dehradoon.

[***]Associate Professor, Deptt. of Shalya Tantra, Pantanjali Ayurvedic Medical College, Haridwar.

[****]Professor & Head, Deptt. of Shalakya Tantra, Faculty of Ayurveda, IMS. BHU. Varanasi.

Article Received on
22 Oct 2015,

Revised on 12 Nov 2015,
Accepted on 02 Dec 2015

***Correspondence for Author**
Dr. Jitendra Kumar
Assistant Professor, Deptt. of Shalakya Tantra, Himalayiya Ayurvedic Medical College, Dehradoon.

ABSTRACT

Krimigranthi is a *Sandhigata Roga* (*Pakshama-Vartma Sandhigata*). It is *Kaphaja Sadhya Vyadhi* described in *Sushruta Samhita*. It is correlated with Blepharitis in modern ophthalmology. Blepharitis is an eye condition characterized by chronic inflammation of the eyelid, the severity and time course of which can vary *Tarpana* means also *Santarpana*, by mean of which the body tissue grows, find strength and become strong. Here, in this study main concern was with second variety of *Tarpana* by means of which the eye shed their weakness and attains better sight. We have tried to observe the role of *Tarpana Karma* in dry eye syndrome in present clinical study in blepharitis. The ***Tarpana Karma*** with ***Jivantyadi Ghruta*** has been selected as trial drugs and conventional treatment i.e. Artificial tears was selected as a control drug in this present research work for evaluating their roles in the management of a series of patients of dry eyes who were selected on the basis of specialized performa prepared for this purpose.

KEYWORDS: Dry eye, Blepharitis (Krimigrinthi), Jivantyadi Ghruta and Tarpan karma.

INTRODUCTION

Krimigranthi is a *Sandhigata Roga* (*Pakshama-Vartma Sandhigata*).[1] **Blepharitis** is an eye condition characterized by chronic inflammation of the eyelid, the severity and time course of which can vary.[2] Onset can be acute, resolving without treatment within 2–4 weeks (this can be greatly reduced with lid hygiene), but more generally is a long standing inflammation varying in severity. It may be classified as seborrhoeic, staphylococcal, mixed and posterior or Meibomitis, or Parasitic.[6] In Ayurvedic medicine or therapy may be beneficial to give significant result in dry eye disorder then it would be great achievement of our therapy. We have tried to observe the role of *Tarpana Karma* in Dry eye syndrome in present clinical study in blepharitis. The ***Tarpana Karma***[3] with ***Jivantyadi Ghruta***[4] has been selected as trial drugs and conventional treatment i.e. it is also locally used in ocular diseases as *Tarpana Karma* like in dryness, roughness, hardness, darkness before eye, dirty eye, itching and burning sensation.

AIMS AND OBJECTIVES

1. To assess the difference in specified parameters of the dry eye due to Blepharitis.
2. To compare the efficacy of *Tarpana* therapy with a control drug i.e. modern therapy in the management of dry eye.

MATERIAL AND METHODS

Following materials & methods were employed for conducting the present research study.

1. STUDY DESIGN

It was a randomized, open, controlled, clinical, interventional trial on human subjects**.**

2. STUDY POPULATION

The study population was collected from the outdoor patient and indoor patient of Department of *Shalakya tantra* and department of Ophthalmology, Sir Sunderlal Hospital, Institute of Medical Sciences, Banaras Hindu University, Varanasi after obtaining informed consent from patients.

3. SAMPLE SIZE AND SELECTION CRITERIA

Twenty patients of blepharitis were registered, as per criteria of inclusion and exclusion.

1. Inclusion Criteria

a) Patients with the symptoms of dry eyes caused due to Blepharitis.

b) Patients who show score for dry eye on the Schirmer's test 1 and Tear film break-up time.

c) Patients in the age group of 15-70 years of either sex.

2. Exclusion Criteria

a) Patients below 15 and above 70 years of age.

b) Dry eyes due to direct physiological effect of a substance (e.g. wind, dry climates, smoke, air conditioning and medication) or a general medical condition (such as Sjögren's syndrome, Rheumatoid arthritis, Diabetes, Thyroid problems, Herpes zoster and Collagen vascular diseases).

3. DRUG DESCRIPTION

The ***Tarpana Karma*** with ***Jivantyadi Ghruta*** has been selected as trial drugs and conventional treatment i.e. Artificial tears was selected as a control drug in this present research work for evaluating their roles in the management of a series of patients of Dry eyes wsr to blepharitis.

I. *Tarpana Karma* with *Jivantyadi Ghruta*

1. Dose

10 ml in each eye once a day for 10 minutes in morning hours before meal.

2. Duration

2 months (3 days *Swedana Karma* of *Urdhvajatroo* followed by 7 days *Tarpana Karma* followed by gap of 10 days and this cycle was repeated for total 3 times).

3. Follow ups

On 0 day i.e on day of admission 20^{th}, 40^{th} and 60^{th} day of trial.

4. Method of *Tarpana Karma*

i) Patient who underwent *Tarpana Karma* was firstly subjected to *Swedana Karma* of *Urdhvajatroo* region followed by *Nasya Karma* by *Khadabindu Taila*. 2 drops were poured in each nostril. This process was followed for three days. After three days *Tarpana Karma* was started.

ii) Patients with empty stomach were lied down on his back in a room which is free from sunlight, blast of wind, dust and the process was done in the morning hours.

iii) A firm, circular wall of paste of *Urada (black gram)* pulse powder around the eye should be made. It is applied to each around it.

iv) 10 gm of *Ghruta Manda* is slightly heated in warm water and transformed into liquid should fill up the ocular cavity up to the tip of eye lashes.

v) The duration of keeping *Ghruta Manda* in the eyes was 10 minutes.

vi) After the completion of *Tarpana* therapy *Sneha* should be drained by the outer canthus (temporal side) of the eye and should be cleaned by luck warm water.

II. Carboxymethylcellulose eye drop

1. It is an artificial tear eye drop

2. Dose- one drop 8 times per day

3. Duration- 2 months.

4. Follow ups- On 0 day i.e on day of admission 20th, 40th and 60th day of trial.

III. Dose Schedule

1. *Tarpana Karma* with *Jivantyadi Ghruta*

3 days *Swedana Karma* of *Urdhvajatroo* followed by 7 days *Tarpana Karma* by pouring 10ml of *Ghruta* for 10 minutes in each eye followed by gap of 10 days and this cycle was repeated for total 3 times in morning hours before meal.

2. Artificial tear drops

One drop of artificial tear was administered 8 times per day.

IV. Duration of clinical trial

The duration of clinical trial was 60 days. All patients were followed up 0 day i.e. on day of admission than 20th, 40th and 60th day of trial.

4. EXPERIMENTAL GROUPING

20 registered patients of 40 Dry eyes with Blepharitis were divided into two subgroups i.e. GB1 and GB2 with 10 patients in each subgroup. 10 (20 eyes) Patients in this group were treated with *Tarpana Karma* with *Jivantiyadi Ghruta* for 10 days (3 days *Swedana Karma* of *Urdhvajatroo* region followed by 7 days *Tarpana Karma*) followed by interval of 10 days and this cycle was repeated for total 3 times in morning hours before meal and10 (20 eyes) patients of dry eyes with blepharitis were administered artificial tear 1 drop eight times a day with the precaution of wearing sunglasses while going out in day time.

5. CRITERIA'S OF ASSESSMENT FOR DRY EYES

During trial and follow up study the patients were assessed on following parameters:-

- Subjective Improvement
- Objective Improvement

7. Diagnostic Method for Dry eyes

Following are the diagnostic methods for the dry eyes.

1. Schirmer`s test I & II.
2. Tear film break up time (BUT).

STATISTICAL METHODS USED IN THIS STUDY

Various observations made and results obtained were computed statistically to find out the significance of the values obtained and various conclusions were drawn accordingly. Following tests were used for this statistical purpose.

1. Chi-square test-This test was used to obtain results for each group.

2. Friedman Test- This test is used for Inter group comparison.

All the calculation was performed with the help of **SPSS Software.** Both the tests was carried out at $p<0.05$, $p<0.01$, $p<0.001$. The obtained results was interpreted as.

- Insignificant: $P > 0.05$.
- Significant: $P < 0.05$.
- Highly significant: $P < 0.01$, $P < 0.001$.

OBSERVATION AND RESULT

- All the results are calculated with the help of SPSS Software.
- For Nonparametric Data **Friedman Test** has been used and results are obtained for each group.
- For calculating the Inter group comparison **Chi- Square Test** is used.

Table Showing effect of Schirmer`s Test on right eye in the patients of Dry Eye WSR. to blepharitis (Friedman Test).

Group	Sub-group	Grade	No. of Cases				Within the Group comparison (Friedman Test)
			BT	F1	F2	F3	
Blepharitis Group	GB1	Normal	0	2	6	10	Chi-square=26.651 P <0.001
		Mild	4	4	4	0	
		Moderate	2	4	0	0	
		Severe	4	0	0	0	
	GB2	Normal	2	4	7	10	Chi-square=20.45 P<0.001
		Mild	5	3	3	0	
		Moderate	3	3	0	0	
		Severe	0	0	0	0	

In **Schirmer's Test** on right eye of **GB1** in Group B, the number of patient in Normal grade were 0, 4 in Mild grade, 2 in Moderate grade and 4 in Severe grade before the treatment but after the treatment there were no patients in Mild, Moderate or Severe grade and all the patients were converted into Normal Grade. So, the result is highly significant with P value <0.001 and Chi- square value= 26.651.

In **Schirmer's Test** on right eye of **GB2** in Group B, the number of patient in Normal grade were 2, 5 in Mild grade, 3 in Moderate grade and 0 in Severe grade before the treatment but after the treatment there were no patients in Mild, Moderate or Severe grade and all the patients were converted into Normal Grade. So, the result is highly significant with P value <0.001 and Chi- square value= 20.45.

Table Showing effect of Schirmer`s Test on left eye in the patients of Dry Eye WSR to blepharitis (Friedman Test).

Group	Sub-group	Grade	No. of Cases				Within the Group comparison (Friedman Test)
			BT	F1	F2	F3	
Blepharitis Group	GB1	Normal	0	2	6	10	Chi-square=26.651 P <0.001
		Mild	4	4	4	0	
		Moderate	2	4	0	0	
		Severe	4	0	0	0	
	GB2	Normal	2	5	7	10	Chi-square=20.063 P <0.001
		Mild	5	2	3	0	
		Moderate	0	3	0	0	
		Severe	3	0	0	0	

In **Schirmer's Test** on left eye of **GB2** in Group B, the number of patient in Normal grade were 0, 4 in Mild grade, 2 in Moderate grade and 4 in Severe grade before the treatment but after the treatment there were no patients in Mild, Moderate or Severe grade and all the

patients were converted into Normal Grade. So, the result is highly significant with P value <0.001 and Chi- square value = 26.651.

In **Schirmer's Test** on left eye of **GB2** in Group B, the number of patient in Normal grade were 2, 5 in Mild grade, 0 in Moderate grade and 3 in Severe grade before the treatment but after the treatment there were no patients in Mild, Moderate or Severe grade and all the patients were converted into Normal Grade. So, the result is highly significant with P value <0.001 and Chi- square value = 20.063.

Table Showing effect of Tear Film Break Up Time on right eye in the patients of Dry Eye WSR to Blepharitis (Friedman Test).

Group	Sub-group	Grade	No. of Cases				Within the Group comparison (Friedman Test)
			BT	F1	F2	F3	
Blepharitis Group	GB1	Normal	0	4	10	10	Chi-square=24.00 P <0.001
		Mild	10	6	0	0	
		Moderate	0	0	0	0	
		Severe	0	0	0	0	
	GB2	Normal	2	4	10	10	Chi-square=20.00 P <0.001
		Mild	8	6	0	0	
		Moderate	0	0	0	0	
		Severe	0	0	0	0	

In **Tear Film Break Up Time** on right eye of **GB1** in Group B, the number of patient in Normal grade were 0, 10 in Mild grade, 0 in Moderate grade and 0 in Severe grade before the treatment but after the treatment there were no patients in Mild, Moderate or Severe grade and all the 10 patients were converted into Normal Grade. So, the result is highly significant with P value <0.001 and Chi- square value = 24.00.

In **Tear Film Break Up Time** on right eye of **GB2** in Group B, the number of patient in Normal grade were 2, 8 in Mild grade, 0 in Moderate grade and 0 in Severe grade before the treatment but after the treatment there were no patients in Mild, Moderate or Severe grade and all the 10 patients were converted into Normal Grade. So, the result is highly significant with P value <0.001 and Chi- square value = 20.00.

Table showing effect of Tear Film Break Up Time on left eye in the patients of Dry Eye WSR to Blepharitis (Friedman Test).

Group	Sub-group	Grade	No. of Cases				Within the Group comparison (Friedman Test)
			BT	F1	F2	F3	
Blepharitis Group	GB1	Normal	0	4	10	10	Chi-square=24.00 P <0.001
		Mild	10	6	0	0	
		Moderate	0	0	0	0	
		Severe	0	0	0	0	
	GB2	Normal	2	4	10	10	Chi-square=20.400 P <0.001
		Mild	8	6	0	0	
		Moderate	0	0	0	0	
		Severe	0	0	0	0	

In **Tear Film Break Up Time** on left eye of **GB1** in Group B, the number of patient in Normal grade were 0, 10 in Mild grade, 0 in Moderate grade and 0 in Severe grade before the treatment but after the treatment there were no patients in Mild, Moderate or Severe grade and all the 10 patients were converted into Normal Grade. So, the result is highly significant with P value <0.001 and Chi- square value = 24.00.

In **Tear Film Break Up Time** on left eye of **GB2** in Group B, the number of patient in Normal grade were 2, 8 in Mild grade, 0 in Moderate grade and 0 in Severe grade before the treatment but after the treatment there were no patients in Mild, Moderate or Severe grade and all the 10 patients were converted into Normal Grade. So, the result is highly significant with P value <0.001 and Chi- square value = 20.400.

DISCUSSION

In **Schirmer's Test** on right eye of **GB1** in Group B, the number of patient in Normal grade were 0, 4 in Mild grade, 2 in Moderate grade and 4 in Severe grade before the treatment but after the treatment there were no patients in Mild, Moderate or Severe grade and all the patients were converted into Normal Grade. So, the result is highly significant with P value <0.001 and Chi- square value= 26.651. In **Schirmer's Test** on right eye of **GB2** in Group B, the number of patient in Normal grade were 2, 5 in Mild grade, 3 in Moderate grade and 0 in Severe grade before the treatment but after the treatment there were no patients in Mild, Moderate or Severe grade and all the patients were converted into Normal Grade. So, the result is highly significant with P value <0.001 and Chi- square value= 20.45.

In **Schirmer's Test** on left eye of **GB1** in Group B, the number of patient in Normal grade were 0, 4 in Mild grade, 2 in Moderate grade and 4 in Severe grade before the treatment but

after the treatment there were no patients in Mild, Moderate or Severe grade and all the patients were converted into Normal Grade. So, the result is highly significant with P value <0.001 and Chi- square value = 26.651. In **Schirmer's Test** on left eye of **GB2** in Group B, the number of patient in Normal grade were 2, 5 in Mild grade, 0 in Moderate grade and 3 in Severe grade before the treatment but after the treatment there were no patients in Mild, Moderate or Severe grade and all the patients were converted into Normal Grade. So, the result is highly significant with P value <0.001 and Chi- square value = 20.063.

In **Tear Film Break Up Time** on right eye of **GB1** in Group B, the number of patient in Normal grade were 0, 10 in Mild grade, 0 in Moderate grade and 0 in Severe grade before the treatment but after the treatment there were no patients in Mild, Moderate or Severe grade and all the 10 patients were converted into Normal Grade. So, the result is highly significant with P value <0.001 and Chi- square value = 24.00. In **Tear Film Break Up Time** on right eye of **GB2** in Group B, the number of patient in Normal grade were 2, 8 in Mild grade, 0 in Moderate grade and 0 in Severe grade before the treatment but after the treatment there were no patients in Mild, Moderate or Severe grade and all the 10 patients were converted into Normal Grade. So, the result is highly significant with P value <0.001 and Chi- square value = 20.00.

In **Tear Film Break Up Time** on left eye of **GB1** in Group B, the number of patient in Normal grade were 0, 10 in Mild grade, 0 in Moderate grade and 0 in Severe grade before the treatment but after the treatment there were no patients in Mild, Moderate or Severe grade and all the 10 patients were converted into Normal Grade. So, the result is highly significant with P value <0.001 and Chi- square value = 24.00. In **Tear Film Break Up Time** on left eye of **GB2** in Group B, the number of patient in Normal grade were 2, 8 in Mild grade, 0 in Moderate grade and 0 in Severe grade before the treatment but after the treatment there were no patients in Mild, Moderate or Severe grade and all the 10 patients were converted into Normal Grade. So, the result is highly significant with P value <0.001 and Chi- square value = 20.400.

CONCLUSION

following conclusion can be drawn from the current research project.

1. Among various eye disorders described in *Ayurveda Sushkakshipaka, Vataja Abhishyanda, Krimigrinthi, Pothaki etc* is nearest term for dry eye.

2. Aetiology of dry eye can be understood at the level of various deficiency of tear. The drug having effect on tear film layers may show symptomatic relief in dry eye.
3. *Tarpana* therapy by *Jivantiyadi Ghruta* produced similar results in sign and symptoms of *dry eye* when compared with artificial tear drops
4. Thus, the results obtained in clinical studies are highly encouraging and pave the way to find out toxicity free and cost effective *Ayurvedic* management.
5. Since the study was carried out with limited budget and time, the results of this study provide enough scope to future research scholars in the field of *Ayurveda* in general and *Netra Rogas* in particular to work in this direction.
6. Since administration of *Tarpana* therapy by *Jivantiyadi Ghruta* did not witnessed any side toxic effect in a series of patients of *dry eye*, obviously these two *Ayurvedic* modalities can be employed for longer duration in the management of patients of *dry eye.*

Therefore it can be concluded that *Tarpana* therapy by *Jivantiyadi Ghruta* can be used effectively, separately or in combination together for the management of patients of dry eye safely.

REFERENCES

1. Ambikadutta Sastree Ayurvedtavta Sandeepika Hindi Commentary on Susruta Samhita Chaukhaba Sanskrita Sansthan Publication, Varanasi, reprinted edition, 2006; Su.Ut. 2/9, pp-14.
2. Dahl, Andrew. "What are the symptoms and signs of blepharitis?". medicinenet. com. Retrieved 21 December 2012.
3. Ambikadutta Sastree Ayurvedtavta Sandeepika Hindi Commentary on Susruta Samhita Chaukhaba Sanskrita Sansthan Publication, Varanasi, reprinted edition, 2006; Su.Ut. 18/12-17.
4. Sri satya narayana sastree vidyotini hindi commentary on charaka Samhita Chaukhaba bharati academy Publication, Varanasi, reprinted edition, 1998; cha. chi 8/111-113 pp-294.
5. "Blepharitis Treatment". Blepharitis treatment. net. Retrieved 21 December 2012.
6. Ayurvedic formulary of India in Ghruta preparation chapter.