



## Research Article

## PAIN MANAGEMENT AFTER KSHAR-SUTRA LIGATION OF HAEMORRHOIDS WITH HERBOMINERAL PREPARATION AND STANDARD NSAID: A CONTRASTIVE STUDY

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**KEYWORDS:** Haemorrhoids, Kshar-sutra ligation, post-operative pain, Triphala Guggulu, Gandhaka Rasayana.

### ABSTRACT

The disease haemorrhoids is an Ano-rectal disorder and is as old as mankind. A large population of the world population is troubled with this disease which is due to inconsistency of the human diet and social obligations demanded by civilization. The management of 3<sup>rd</sup> degree haemorrhoids needs mainly a surgical approach. The Kshara-sutra ligation method of haemorrhoids is done by Ayurvedic surgeons but facing hardships in post ligation pain management. A complete Ayurvedic postoperative pain management is the need of every Ayurvedic surgeon. This study was carried out with an attempt to find an effective and safe Ayurvedic postoperative pain management and for this, 30 Patients who were undergone Kshara sutra ligation of haemorrhoids were selected from the from the IPD of Post Graduate of Department Shalya Tantra, Jammu Institute Of Ayurveda And Research Hospital, Nardani, Jammu. Selected patients were randomly divided into two groups each of 15 patients. For pain relief, the patients in Group A were administered with Diclofenac sodium, which is an established NSAID, in the dose of 50mg TDS orally where as the patients in Group B were administered with Triphala Guggulu and Gandhaka Rasayana in the dose of 450 mg TDS and 250 mg TDS orally respectively. Although satisfactory result obtained on all parameters with Triphala Guggulu and Gandhaka Rasayana but Diclofenac sodium is found statistically more significant.

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## INTRODUCTION

Ayurvedic approach towards the disease is holistic. Numerous therapeutic modalities have been advocated by our Acharyas in the management of each and every disease. But their efficacy needs reestablishment by means of thorough and intensive researches. Sushruta, the father of Indian surgery has scientifically classified, in a systemic manner, a wealth of clinical material and the principles of management which are valid even today. In the field of Ayurvedic surgery, management of Arshas by Kshara-sutra ligation has gained immense popularity and its efficacy has been proved time immemorial. Pain is unavoidable in this technique too after the procedure. Hence Ayurvedic surgeons are facing the problem of post ligation pain management. In spite of all the complications induced by modern Analgesics, Ayurvedic surgeons are forced to prescribe them. A complete and Ayurvedic Postoperative Pain management is the need of every Ayurvedic surgeon. Triphala guggulu and Gandhaka rasayana are well studied drugs in post operative pain management. So in the present study, the patients who have undergone Kshara-sutra ligation for Arsha will be subjected to oral medication of Triphala Guggulu and Gandhaka Rasayana

with luke warm water sitz bath in the post ligation period for assessment of their analgesic effects. The results are compared with Diclofenac sodium, which is an established modern non-steroidal analgesic drug.

### DRUG CONTRIVE

#### Preparation of Triphala Guggulu

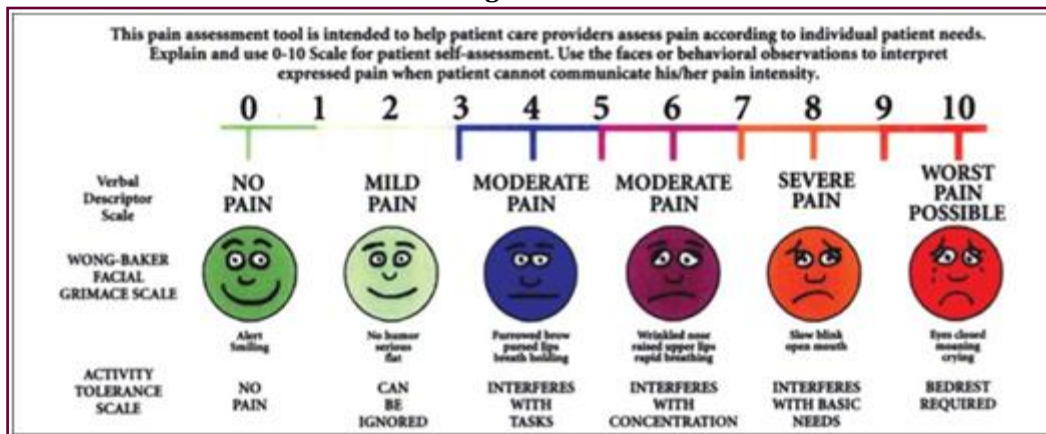
Hareetaki, Vibheetaki, Aamalaki and Pippali each one Pala in quantity are taken in the dry form and powdered separately. Five Pala of Guggulu is taken in the Shodhita form and pounded along with the above prepared powder and made in to paste. Using small amount of ghee they are rolled in to pills.

#### Preparation of Gandhaka rasayana

Shuddha Gandhaka is taken. Three Bhavana are given out of each one of Goksheera, Chaturjata and Guduchi. Similarly eight Bhaavana are given out of each one of Pathya, Dhaatri, Aksha, Bhrungaraja and Aardraka. It is considered as Gandhaka Rasayana.

CLINICAL PARAMETERS OF STUDY

Visual analogue scale Pain score



1. Inflammation

No inflammation	0
Mild inflammation	1
Moderate inflammation	2
Severe inflammation	3

2. Tenderness

No tenderness	0
Mild tenderness	1
Moderate tenderness	2
Severe tenderness	3

METHODOLOGY:

1. Source of data

Patients undergone *Kshara sutra* ligation of haemorrhoids and admitted in IPD of Post Graduate of Department Shalya Tantra, Jammu Institute Of Ayurveda And Research Hospital, Nardani, Jammu were randomly selected for the trial.

2. Inclusion criteria

- a. Patients who were undergone *Kshara sutra* ligation.
- b. Patients of both sexes in age group of 20-60 years.

3. Exclusion Criteria

- a. Patients having unexplained severe pain before *Kshara sutra* ligation.
- b. Patients who have developed other complication apart from pain in post ligation period.

- c. Patients associated with uncontrolled systemic diseases like Diabetes and Hypertension.
- d. Female patients with pregnancy.

4. Study design

It is a comparative clinical study of randomly selected 30 patients.

**Sample size:** 30 patients who were fulfilling the criteria of selection for present study were randomly selected and categorized into two groups, as Group A and Group B.

Group A:

- Sample size :** 15 patients.
- Drug :** Tab. Diclofenac sodium 50mg tds
- Sitz bath :** Every six hourly and after defecation
- Duration :** 7 days

Group B:

- Sample size:** 15 patients.
- Drug:** *Triphala Guggulu* and *Gandhaka Rasayana*
- Dose:** 450 mg tds and 250 mg tds respectively.
- Sitz bath:** Every six hourly and after defecation
- Duration:** 7 days

**Diet:** Patients were advised to follow high nutrition diet, green leafy vegetables and more liquid diet.

Assessment criteria

Criteria of assessment will be based on self-assessment "VAS pain score" review of intensity of post ligation pain every three-hours on first day and every six hours on consecutive six days.

OBSERVATION AND RESULTS

A. GROUP A – DICLOFENAC

Table 1: Comparison of Pain on 1<sup>st</sup> And 7<sup>th</sup> Post-Operative Day Paired Samples Test

		Paired Differences				t	df	Sig. (2-tailed)	
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower				Upper
Pair 1	DICLO_PAIN_DAY_1 - DICLO_PAIN_DAY_7	4.73333	.96115	.24817	4.20107	5.26560	19.073	14	.000

**Table 2: Comparison of Inflammation on 1<sup>st</sup> and 7<sup>th</sup> Post-Operative Day**

**Paired Samples Test**

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	DICLO_INFLM_DAY_1 - DICLO_INFLM_DAY_7	1.53333	.51640	.13333	1.24736	1.81930	11.500	14	.000

**Table 3: Comparison of Tenderness on 1<sup>st</sup> and 7<sup>th</sup> Post-Operative Day**

**Paired Samples Test**

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	DICLO_TNDRNS_DAY_1 - DICLO_TNDRNS_DAY_7	1.26667	.45774	.11819	1.01318	1.52015	10.717	14	.000

**B. GROUP B - TG & GR**

**Table 4: Comparison of Pain on 1<sup>st</sup> And 7<sup>th</sup> Post-Operative Day**

**Paired Samples Test**

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	TGGR_PAIN_DAY_1 - TGGR_PAIN_DAY_7	4.46667	1.06010	.27372	3.87960	5.05373	16.319	14	.000

**Table 5: Comparison of Inflammation on 1<sup>st</sup> And 7<sup>th</sup> Post-Operative Day**

**Paired Samples Test**

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	TGGR_INFLM_DAY_1 - TGGR_INFLM_DAY_7	1.46667	.51640	.13333	1.18070	1.75264	11.000	14	.000

**Table 6: Comparison of Tenderness on 1<sup>st</sup> and 7<sup>th</sup> Post-Operative Day**

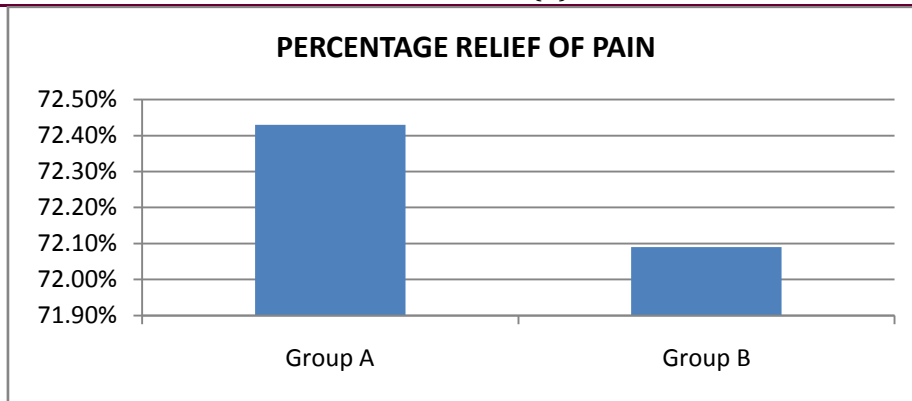
**Paired Samples Test**

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	TGGR_TNDRNS_DAY_1 - TGGR_TNDRNS_DAY_7	1.20000	.41404	.10690	.97071	1.42929	11.225	14	.000

**C. OVERALL RELIEF**

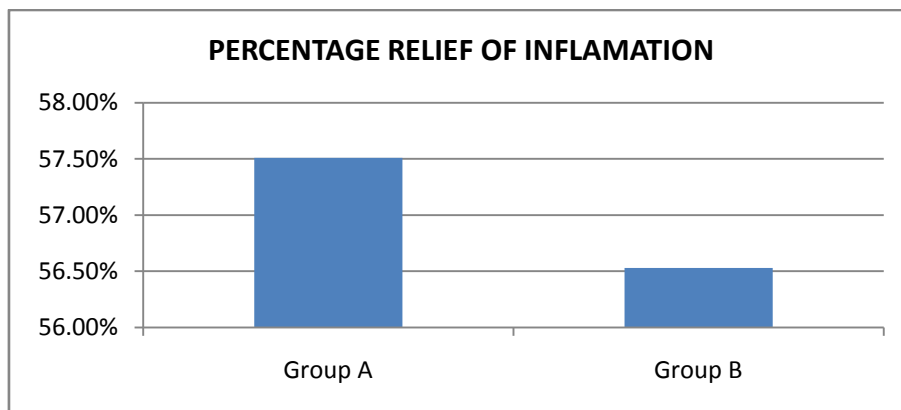
**Table 7: Relief of Pain at the End of 7<sup>th</sup> Day in Both the Groups**

GROUPS	MEAN B.T.	MEAN A.T.	PERCENTAGE RELIEF OF PAIN
Group A	6.53	1.8	72.43%
Group B	6.2	1.73	72.09%



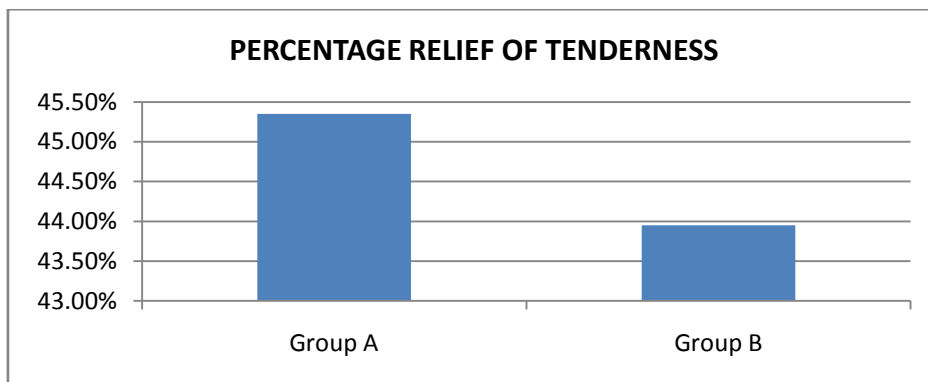
**Table 8: Relief of Inflammation at the End of 7<sup>th</sup> Day in Both the Groups**

GROUPS	MEAN B.T.	MEAN A.T.	PERCENTAGE RELIEF OF INFLAMATION
Group A	2.66	1.13	57.51%
Group B	2.6	1.13	56.53%



**Table 9: RELIEF OF TENDERNESS AT THE END OF 7<sup>TH</sup> DAY IN BOTH THE GROUPS**

GROUPS	MEAN B.T.	MEAN A.T.	PERCENTAGE RELIEF OF TENDERNESS
Group A	2.8	1.53	45.35%
Group B	2.73	1.53	43.95%



**DISCUSSION**

At the end of 7<sup>th</sup> day, VAS Pain scale in Group-A showed a relief of pain at 72.43% where as in Group-B, VAS Pain scale had relief of pain at 72.09% in patients post operatively who had undergone *Kshara sutra* ligation.

**Group A:** In the VAS pain scale index for parameter of pain, 't' values on 3<sup>rd</sup>, 5<sup>th</sup> and 7<sup>th</sup> days were 10.458

(P<0.001), 14.938 (P<0.001) and 19.073 (P<0.001) respectively. In case of inflammation, 't' values on 3<sup>rd</sup>, 5<sup>th</sup> and 7<sup>th</sup> days were 2.256 (P<0.05), 5.292 (P<0.001) and 11.500 (P<0.001) respectively. In case of tenderness, 't' value on 3<sup>rd</sup> day is 1.000 (P>.001) which is insignificant where as on 5<sup>th</sup> and 7<sup>th</sup> days, 't' value were 4.000 (P<0.001) and 10.717 (P<0.001) respectively which

implies treatment in Group- A was highly significant statistically.

**Group B:** In the VAS pain scale index for parameter of pain, 't' values on 3<sup>rd</sup>, 5<sup>th</sup> and 7<sup>th</sup> days were 8.573 (P<0.001), 13.252 (P<0.001) and 16.319 (P<0.001) respectively. In case of inflammation, 't' values on 3<sup>rd</sup> day was 0.807 (P>0.01) which is statistically insignificant where as on 5<sup>th</sup> and 7<sup>th</sup> days, 't' values were 4.583 (P<0.001) and 11.000 (P<0.001) respectively which implies treatment in Group- B was highly significant statistically but after 3 days. In case of tenderness, 't' value on 3<sup>rd</sup> day is 1.000 (P>.001) which is insignificant where as on 5<sup>th</sup> and 7<sup>th</sup> days, 't' value were 3.500 (P<0.05) and 11.225 (P<0.001) respectively which means the treatment in Group- B was significant statistically but only after 3 days. The above data from both the groups implies that Group A and Group B treatment are not equal and by observing mean difference of Group A and Group B, Group A treatment is slightly more significant.

#### PROBABLE MODE OF ACTION

Chakradatta while explaining the properties of *Triphala Guggulu* denotes that, it reduces *Kleda*, *Paaka*, *Putigandha*, *Shotha* along with remarkable reduction of pain in *Vranas*. *Katu*, *Tikta rasa* present in *Gandhaka Rasayana* helps in *Vranavasadana*, thus helping in early wound healing and significant reduction in the pain and it is also a *Rasayana*. Sitz bath is advised with luke warm water. Heating the tissues increases metabolic activity, increases blood flow and stimulates neural receptors. Heat appears to produce definite sedative effects. Due to *Ushna guna* induced by the sitz bath there will be muscle relaxation which intern reduces the pain. Because of these factors *Avagaha sweda* relieves *Vedana*. As all these properties are antagonistic to *Vata dosha*, this drug acts as *Vata shamaka* and reduces *Vedana*.

#### CONCLUSION

The pain management after *Kshara sutra* ligation of haemorrhoids in an effective manner has always been a challenge to the Ayurvedic surgeons. The conventional treatment includes NSAIDs and Diclofenac sodium is a known potent anti-inflammatory drug. *Triphala Guggulu* and *Gandhak rasayan* are having *Vrana Shodhana*, *Vrana Ropana* and *Vranavasadana* properties which results in relieving inflammation and hence pain and tenderness.

After the detailed evaluation of both the groups, it was noted that both groups provided statistically significant results in relieving pain post *Kshar-sutra* ligation for haemorrhoids. The statistical data shows Group A and Group B treatment are not equal, by observing mean difference of Group A and Group B, Group A treatment is slightly more significant. However for the confirmation of the above results, large scale systematic study is required. The present study may form the base for further research in the field of post operative pain management with various Ayurvedic formulations.

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