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A Comparative Study of *Kadali Pratisaraneeya Kshara* and *Apamarga Pratisaraneeya Kshara* in the Management of *Abhyantara Arsha* (Internal Haemorrhoids)

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ABSTRACT

The comparative clinical study of *Kadali Pratisaraneeya Kshara* and *Apamarga Pratisaraneeya Kshara* in the management of *Abhyantara Arsha* (Internal Haemorrhoid) concluded cases concerned with classical signs and symptoms of *Abhyantara Arsha* were selected. They were allocated into two groups i.e., Group-A and Group-B. In Group-A *Kadali Pratisaraneeya Kshara* was applied and in Group-B *Apamarga Pratisaraneeya Kshara* was applied in internal haemorrhoids. The signs and symptoms of *Abhyantara Arsha* was bleeding per rectum, pain, burning sensation, sloughing of pile mass and discharge of *Arshas* were assessed before and after the completion of treatment. After the treatment *Pratisaraneeya Kshara* 100% relief was recorded in bleeding, reduction in sloughing of pile mass and total reduction in size of pile mass. On comparison of effects, as mentioned above, it can be concluded that the application of *Apamarga Pratisaraneeya Kshara* provided better relief in bleeding, sloughing of the pile mass and discharge of the patients in comparison to *Kadali Pratisaraneeya Kshara*. In pain and burning sensation better relief in Group A was obtained as compared to Group B. However, all 18 cases of Group-A and 18 cases of Group-B in both groups showed good results in internal haemorrhoids.

KEYWORDS

Abhyantara Arsha, *Internal haemorrhoid*, *Kadali Pratisaraneeya Kshara*, *Apamarga Pratisaraneeya Kshara*. *Kshara Karma*



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INTRODUCTION

In today's time consumption of fast foods, irregularity in food habit, changing food style, sedentary life style and mental stress are factors that disturb digestive system, resulting into many diseases including ano-rectal disorders. The prevalence rate of this disease is 4.4% in ten million people. The faulty food habits and sedentary life style of modern man increases the incidence rate¹. Among these haemorrhoids commonly known as piles is quite common in the society. It is commonly seen in the people who work in prolonged sitting position for many hours such as driver, bank manager, tailors, shopkeeper, etc.

Arsha is considered as one among the 8 *Mahagadha's* by *Acharya Sushruta*². It is considered so because of its position. The *Nidana, Samprapti, Bheda, Lakshana, Upadrava* of *Arsha*, and using its management mentioned in the classics^{3,4}. The prime etiopathogenic factor of *Arshas* is *Mandagni*, which in turn leads to constipation, prolonged contact of accumulated *Mala* or excretory material to *Gudavali* causes development of *Arshas*.

Acharya Sushruta described four principal therapeutic measures in the management of *Arshas* i.e., *Bhesaja Chikitsa* (Medical treatment), *Kshara karma* (Caustic therapy),

Agnikarma (Thermal cautery) and *Shashtra karma* (Surgery)⁵. These measures in definite order are suggestive of similar methods to be preferred first. These procedures are simple, very safe, effective and with minimal or no complications, unhazardous and easily acceptable by the patients. There is minimal interference in patient's routine work.

The modern modality of treatment in haemorrhoid is sclerotherapy; rubber band ligation, anal dilatation, infrared photo-coagulation; cryosurgery and hemorrhoidectomy are now in practice. Though these procedures are universally acceptable but recurrence rate is high, modern science has very little to offer in terms of medical treatments of haemorrhoids⁶. *Kshara Karma* is one of the para-surgical modality utilized in the management of piles. Recently these invented techniques have got one or the other type of limitations as well as have not been proven free from post-operative complications. Hence it leaves a scope to switch over a new and better type of treatment which should be free from all such complications and give the cure in reasonable shorter time, as well as, proves economically better.



MATERIALS AND METHODS

Ethical Committee Approval Number

PIA/IE CHR/51/2014-15/SHALYA/002

Date – 1/5/2015.

Clinical Trial Registry of India Approval

Number CTRI/2017/04/008377;

Registered on: 01/02/2016.

The materials required for the procedures are - drugs, equipment, and patients with second and third degree haemorrhoids.

Drugs: *Teekshna Kadali and Apamarga Pratisaraneeya Kshara*

Preparation of Kshara⁷

The *Panchanga* of *Kadali / Apamarga* plant was collected, dried up and burnt. Then this ash was collected and mixed with six times of water and filtered 21 times. The filtrate obtained was clean and clear like *Gomutra Varna*, it was kept on mild fire and reduced to 2/3rd of the original quantity. Red hot *Shukti* 1/10 part was then added into the filtrate solution and constantly stirred well until it was reduced to 1/3rd of the original quantity. This was further heated by adding 1/10th part of *Chitraka Kalka*. The thick solution obtained was known as *Kadali / Apamarga Pratisaraneeya Teekshna Kshara*. It was collected and stored in air tight containers. pH of *Kshara* obtained was 12.8 and 13.5 for *Kadali Pratisaraneeya Kshara* and *Apamarga Pratisaraneeya*

Kshara, respectively. (pH of a strong alkali is 7 to 14). The other drugs useful in the procedure of *Kshara Karma* are Lemon juice, and *Jatyadi Taila*.

Clinical study:

Forty patients were selected for the study from OPD and IPD of Parul Ayurved Hospital, Limda, Vadodara, Gujarat. The patients were divided into two groups. The criteria for the selection of the patient were as follows:

Inclusion Criteria:-

- The *Abhyantara Arshas* of 2nd degree and 3rd degree which are soft, broad, deep & bulged up
- Patients group of ages 16 to 60 years

Exclusion Criteria:-

- Pregnancy.
- Tuberculosis, Diabetes mellites, HIV infections, Chron's disease, Ulcerative colitis, Carcinoma
- Patients group of ages below 16 & above 60
- Patient who were not ready to sign written informed consent form

Materials taken for the study:

A Group – Managed with *Kadali Pratisaraneeya Teekshna Kshara*.

B Group – Managed with *Apamarga Pratisaraneeya Teekshna Kshara*.

Pratisaraneeya Kshara Karma procedure: Purva Karma:

- Consent was taken



- Part preparation was done
- Proctoclysis enema was given
- Xylocaine sensitivity test.

Table 1 Grouping of Patients

Group	Treatment	Duration
Group A	<i>Kadali Pratisaraneeya Kshara</i> was applied to the pile mass.	One sitting and observed 28 days then after 28 days follow-up Total 56 days treatment
Group B	<i>Apamarga Pratisaraneeya Kshara</i> was applied to the pile mass.	One sitting and observed 28 days then after 28 days follow-up Total 56 days treatment

Pradhana Karma:

Patient was made to lie down in lithotomy position. Anus and surrounding area was cleaned with antiseptic lotion. Draping was done. Local anaesthesia with 2% xylocaine was administered; manual anal dilatation was done sufficient enough to admit four fingers. Lubricated normal proctoscope was introduced and position of pile mass was noted and proctoscope was removed. Then slit proctoscope was introduced and skin around pile mass was pulled laterally with Allis tissue holding forceps to get a better view of haemorrhoids.

The healthy anal mucosa was covered with wet cotton balls to prevent spilling of *Kshara* on it. Then the pile mass was gently scraped with the rough surface of spatula. Then *Kadali Pratisaraneeya Kshara* was applied over pile mass and the opening of proctoscope is closed for *Shatamatrakala* (2 minutes) with the palm. Then the pile mass was cleaned with lemon juice. After saw the pinkish pile mass was turned to blackish

(*Pakva Jambu Phala Varna*), if not, *Kshara* was applied once again till the pile mass turned to blackish colour. Once again it was washed with lemon juice and sterile water wash was given. This procedure was repeated on all the haemorrhoids. Thereafter the anal canal was packed with gauze piece soaked in *Jatyadi Taila* to prevent burning sensation and local oedema. Dry dressing was done and the patient was shifted to ward.

Paschat karma:

- Patient was kept nil by mouth for 6 hours after the procedure.
- Packing was removed after 6 hours and 15ml of *Jatyadi Taila* was administered per rectal. From next day onwards patient was advised to take *hot water* sitz bath after passing motion for 10-15 min twice a day.
- *Errand Bhrushth Haritaki* 4 tablets given at night with lukewarm water as a laxative.
- Triphala Guggulu 2 tablets three times in a day after meal as an analgesic.

Diet restriction was advised to the patient.



Figure 1 Before Kshara Application



Figure 2 Before Kshara Application



Figure 3 During Kadali Kshara Application



Figure 4 During Apamarga Kshara



Figure 5 After Kadali Kshara Application



**Figure 6** After Apamarga Kshara Application**Assessment Criteria**

- Pain
- Bleeding
- Burning sensation

Table 2 Assessment criteria of Pain

Sr. No.	Parameter	Criteria	Grade
1.	Pain	No pain	0
		Mild pain	1
		Moderate pain	2
		Severe pain	3

1. Bleeding (Raktasrava)**Table 3** Assessment criteria of Bleeding

Sr. No.	Parameter	Criteria	Grade
1.	Bleeding	Absent	0
		Present	1

2. Burning Sensation**Table 4** Assessment criteria of burning sensation

Sr. No.	Parameter	Criteria	Grade
1.	Burning sensation	Absent	0
		Present	1

3. Sloughing of pile mass**Table 5** Assessment criteria of sloughing of pile mass

Sr. No.	Parameter	Criteria	Grade
1.	Sloughing of pile mass	Absent	0
		Present	1

4. Discharge**Table 6** Assessment criteria of discharge

Sr. No.	Parameter	Criteria	Grade
1	Discharge	Absent	0
		Present	1

Follow up study:**Table 7** Distribution of patient according to age

Age (in years)	Group A		Group B		Total	
	No.	%	No.	%	No.	%
20 – 30	6	30	4	20	10	25
31 – 40	7	35	11	55	18	45

- Sloughing of pile mass
- Discharge

1. Pain - VAS (Visual Analogue scale) was used to assess the pain.

After healing of Arsha lesion the patients were asked to report at an interval of one month to the *Shalya Tantra* OPD to know whether the recurrence of Arsha occurred. The follow up study was 1 month.

OBSERVATIONS AND RESULTS

In the present study, 40 patients suffering from 2nd and 3rd degree *Abhyantara Arsha* fulfilling the inclusion criteria were studied. Patients were randomly categorized into Group-A (*Kadali Pratisaraneeya Kshara*) and Group-B (*Apamarga Pratisaraneeya Kshara*). There were 4 patients drop outs in this study.

In this series (Table No 7) maximum number of patients 18(45%) belonged to age group of 31-40 years, 10 (25%) patients belonged to 41 - 50 years, 10(25%) belonged to 20 – 30 years and age group 2(5%) belonged to 51-60 years.



41 – 50	6	30	4	20	10	25
51 – 60	1	5	1	5	2	5

Table 8 Distribution of patient according to sex:

Sex	Group A		Group B		Total	
	No.	%	No.	%	No.	%
Male	17	85	14	70	31	77.5
Female	3	15	6	30	9	22.5

In this series (Table No.8) maximum patients 31(77.5%) were of male sex and remaining 9(22.5%) was female.

Table 9 Distribution of patient according to sex

Religion	Group A		Group B		Total	
	No.	%	No.	%	No.	%
Hindu	16	80	17	85	33	82.5
Muslim	4	20	3	15	7	17.5
Other	0	0	0	0	0	0

In this series (Table No.9) maximum 33(82.5%) patients were Hindu and 7(17.5%) patients were Muslim.

Table 10 Distribution of patients according to religion

Marital status	Group A		Group B		Total	
	No.	%	No.	%	No.	%
Married	17	85	19	95	36	90
Unmarried	3	15	1	5	4	10

In this series (Table No.10) maximum 36(90%) patients were married and minimum 4(10%) patient was unmarried.

Table 11 Distribution of patient according to occupation

Occupation	Group A		Group B		Total	
	No.	%	No.	%	No.	%
Service	6	30	9	45	15	37.5
Business	1	5	0	0	1	2.5
Labor	8	40	3	15	11	27.5
Housewife	3	15	5	25	8	20
Farmer	2	10	2	10	4	10
Student	0	0	1	5	1	2.5

In this series (Table No.11) maximum 15(37.5%) patients were from service. It followed by 11(27.5%) patients were belonging to hard work, 1(2.5%) to business, 8(20%) was housewife. 4 (10%) was farmer & minimum 1 (2.5%) was student.

Table12 Distribution of patients according to socioeconomic status:

Socio-economic status	Group A		Group B		Total	
	No	%	No	%	No	%
Lower class	9	45	10	50	19	47.5
Middle class	11	55	10	50	21	52.5



Upper middle 0 0 0 0 0 0

In this series (Table No.12) maximum patients of this series i.e., 21(52.5%) came from middle class of the society, 19(47.5%) came from lower class and 0(0%) from upper class society.

Table 13 Distribution of patients according to family history

Family History	Group A		Group B		Total	
	No.	%	No.	%	No.	%
Present	09	45	12	60	21	52.5
Absent	11	55	08	40	19	47.5

In this series (Table No.13), a maximum 21(52.5%) patients had positive familial history and remaining 19(47.5%) patients were not having the familial history of this disease.

Table 14 Distribution of patients according to addiction

Addiction	Group A		Group B		Total	
	No.	%	No.	%	No.	%
Smoking	5	25	3	15	8	20
Alcohol	1	5	0	0	1	2.5
Tobacco	6	30	11	55	17	42.5
No addiction	8	40	6	30	14	35

In these series (Table No.14) 8 (20%) patients had the habit of smoking followed by 14(35%) patients were having no addiction habit followed by 1(2.5%) were having habit of alcohol intake and 17(42.5%) had habit of tobacco chewing.

Table 15 Distribution of patients according to diet habit

Diet habit	Group A		Group B		Total	
	No.	%	No.	%	No.	%
Vegetarian	4	20	07	35	11	27.5
Mixed	16	80	13	65	29	72.5

In this series (Table No.15) 11 (27.5%) patients were vegetarian while remaining 29(72.5%) patients were taking mixed diet.

Table: 16 Distribution of patients according to degree of hemorrhoids:

Degree of Hemorrhoid	Group A		Group B		Total	
	No.	%	No.	%	No.	%
Second	12	60	16	80	28	70
Third	8	40	4	20	12	30

In these series (Table No.16) maximum 28 (70%) patients had second Degree Hemorrhoids followed by 12(30%) patients had third degree hemorrhoids.

Table 17 Distribution of patients according to position of pile mass

Position of pile mass	Group A		Group B		Total	
	No.	%	No.	%	No.	%
3, 7, 11	8	40	6	30	14	35
3, 7	4	20	3	15	7	17.5
7, 11	3	15	5	25	8	20
3,11	2	10	2	10	4	10



3	2	10	1	5	3	7.5
7	1	5	2	10	3	7.5
11	0	0	1	5	1	2.5

In this series (Table No.17) a maximum 14(35%) patients had pile mass at 3, 7 & 11 O'clock position followed by 7(17.5%) had pile mass at 3, & 7 O'clock, 8(20%) patients had pile mass at 7&11 O'clock position, 4(10%) patients had pile mass at

3&11 O'clock position, 3(7.5%) patients had pile mass at 3 O'clock position, 3(7.5%) patients had pile mass at 7 O'clock position and 1(2.5%) patients had pile mass at 11 O'clock position.

Table 18 Distribution of patients according to *Prakriti*

<i>Prakriti</i>	Group A		Group B		Total	
	No.	%	No.	%	No.	%
<i>Vata-pitta</i>	15	75	16	80	31	77.5
<i>Vata-kapha</i>	5	25	3	15	8	20
<i>Kapha-pitta</i>	0	0	1	5	1	2.5

On assessing *Prakriti*, (Table No.18) it was found that maximum 31(77.5%) patients were of *Vata-Pitta Prakriti*, 1(2.5%) patients were of *Kapha-Pitta Prakriti* and 8(20%) patients were of *Vata-Kapha Prakriti*.

Table 19 Distribution of patients according to *Agni*

<i>Agni</i>	Group A		Group B		Total	
	No.	%	No.	%	No.	%
<i>Sama</i>	5	25	4	20	9	22.5
<i>Manda</i>	11	55	13	65	24	60
<i>Tikshna</i>	4	20	3	15	7	17.5

In this series (Table No.19) maximum 24(60%) patients were having *Mandagni*, 9(22.5%) patients were having *Samagni* and 7 (17.5%) patient was having *Teekshnagni*.

Table 20 Distribution of patient according to bowel habit

Bowel habit	Group A		Group B		Total	
	No.	%	No.	%	No.	%
Normal	6	30	7	35	13	32.5
Constipated	14	70	13	65	27	67.5

In this series (Table No.20) a maximum 27(67.5%) patients had constipated bowel followed by 13(32.5%) had normal bowel habit.

Table 21 Results of assessment criteria group A

Sr. No.	Parameter	N	Mean		Diff. Mean	% Relief	SD	SE	T	P	Result
			BT	AT							
1	Pain	18	0.889	0.111	0.778	87.5	0.428	0.101	7.714	<0.001	HS
2	Bleeding	18	0.778	0.000	0.778	100	0.428	0.101	7.714	<0.001	HS



3	Burning sensation	18	0.667	0.0556	0.611	91.66	0.502	0.118	5.169	<0.001	HS
4	Sloughing of pile mass	18	0.000	0.500	-0.500	50	0.514	0.121	4.123	<0.001	HS
5	Discharge	18	0.611	0.111	0.500	72.72	0.514	0.121	4.123	<0.001	HS

N- No. of patients, BT – Before Treatment, AT- After treatment, SD-Standard Deviation, SE- Standard Error, T- t value, P- chance, HS- Highly significant

Table 22 Result of subjective Criteria group B

Sr.No.	Parameter	N	Mean		Diff. Mean	% Relief	SD	SE	T	P	Result
			BT	AT							
1	Pain	18	1.056	0.222	0.833	78.94	0.383	0.090	9.220	<0.001	HS
2	Bleeding	18	0.778	0.000	0.778	100	0.428	0.101	7.714	<0.001	HS
3	Burning sensation	18	0.833	0.111	0.772	86.66	0.461	0.109	6.648	<0.001	HS
4	Sloughing of pile mass	18	0.000	0.389	-0.389	61.11	0.502	0.118	-3.289	<0.05	S
5	Discharge	18	0.611	0.111	0.500	81.81	0.514	0.121	4.123	<0.001	HS

N- No. of patients, BT – Before Treatment, AT- After treatment, SD-Standard Deviation, SE- Standard Error, T- t value, P- chance, HS- Highly significant

Table 23 Percentage difference variable in Group-A parameter

Sr.No.	Parameter	BT Mean	AT Mean	Mean diff.	% relief
1.	Pain	0.889	0.111	0.778	87.5
2.	Bleeding	0.778	0.000	0.778	100
3.	Burning Sensation	0.667	0.0556	0.611	91.66
4	Sloughing of pile mass	0.000	0.500	-0.500	50
5	Discharge	0.611	0.111	0.500	72.72

Table 24 Percentage difference variable in Group-B parameter

Sr. No.	Parameter	BT Mean	AT Mean	Mean diff.	% relief
1.	Pain	1.056	0.222	0.833	78.94
2.	Bleeding	0.778	0.000	0.778	100
3.	Burning Sensation	0.833	0.111	0.772	86.66
4	Sloughing of pile mass	0.000	0.389	-0.389	61.11
5	Discharge	0.611	0.111	0.500	81.81

DISCUSSION

According to *Ayurveda*, *Arsha* is a *Tridoshaja Vyadhi*, though *Raktaja Arsha*

finds a separate mention; it presents features of *Pittaja Arsha* with more bleeding tendency. The treatment modalities of



haemorrhoids either medical, surgical or para surgical, come under four treatment principles of *Arsha* told by *Sushruta*.

Table 25 Percentage difference in individual variable of Group-A and Group -B

Sr. no.	Parameter	Group	Group
		A	B
		%	%
1	Pain	87.5	78.94
2	Bleeding	100	100
3	Burning sensation	91.66	86.66
4	Sloughing of pile mass	50	61.11
5	Discharge	72.72	81.81

Even though *Kshara Karma* is a simple procedure, this is not being practiced by many, may be because of difficulty in preparing *Pratisaraneeya Kshara* with correct potency. The criteria of assessing the correct potency of *Pratisaraneeya Kshara* are getting “*Pakwa Jambuphala Sadrusha Varna*” of red pile mass within *Shatamatrakala* (approximately two minute). This has been achieved here by rigidly following the technique of *Kshara* preparation told by *Sushruta*. For the present study, drugs selected for *Kshara* preparation are *Kadali*, *Apamarga*, *Sukti* and *Citraka*. *Kadali* and *Apamarga* is a freely available herb. Further, its usage in *Arsha* is recommended by most of *Ayurveda Acharyas*. Similarly, *Kadali* is also easily available and indicated in *Arsha*. *Sukti* is also available easily. Its usage in *Kshara* preparation is told by *Sushruta*. *Avapa* and *Prativapa Dravyas* told by *Sushruta* and any

one *Dravya* you can take for preparation of *Kshara*. pH value of alkali range from 7 to 14. The pH value of *Teekshna Kadali Pratisaraneeya Kshara* was 12.8 and *Apamarga Kshara* was 13.5.

The *Kshara karma* is a cost effective Para surgical procedure which requires minimum hospital stay with less recovery time, low recurrence.

Mode of Action of *Pratisaraneeya Kshara*⁸

Pratisaraneeya Kshara acts on haemorrhoids in two ways –

- 1) It cauterizes the pile mass directly because of its *Ksharana Guna* (corrosive nature) and
- 2) It coagulates protein in haemorrhoidal plexus.

The coagulation of protein leads to disintegration of haemoglobin into haem and globin. Synergy of these actions results in decreasing the size of the pile mass. Further, necrosis of the tissue in the haemorrhoidal vein will occur. This necrosed tissue slough out as blackish brown discharge for 7 to 14 days. The haem present in the slough gives the discharge its colour. The tissue becomes fibrosed and scar formation Seen. The haemorrhoidal vein obliterates permanently and there is no recurrence of haemorrhoids.

Mode of action of *Pratisaraneeya Kshara* is already explained in previous researches, main aim of study was to evaluate effect of



Kadali Pratisaraneeya Kshara and to compare the effect of *Apamarga* and *Kadali Pratisaraneeya Kshara*. As per the aim after all observations and statistical analysis it can be concluded that both *Apamarga* and *Kadali Pratisaraneeya Kshara* are effective in controlling bleeding per anus in *Abhyantara Arshas* and both are effective in reducing sloughing of pile mass without any complications like stricture or infection. *Kadali Kshara* causes less post *Kshara karma* pain as compared to *Apamarga Kshara*.

CONCLUSION

On the basis of the comparison of the effects of both the groups it can be said that the application of both *Apamarga* and *Kadali Pratisaraneeya Kshara* are effective in bleeding, pain, burning and sloughing of the pile mass. *Kadali Pratisaraneeya Kshara* can be used effectively in internal haemorrhoids in degree 2nd with minimal postoperative pain and burning compare to *Apamarga Pratisaraneeya Kshara* while in 3rd degree internal haemorrhoids, *Kadali Kshara* reduces size of pile mass so that patient do not complains of prolapse of pile mass. Study concludes that *Kadali* can be used for preparation of *Pratisaraneeya Kshara* instead of *Apamarga* as both are

effective in controlling bleeding, pain, burning and in reducing size of pile mass.



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