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A Comparative Clinical Study on the effect of *Tankana Ksharasutra* and *Apamarga Ksharasutra* in the management of *Bhagandara* (Fistula In Ano)

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ABSTRACT

Fistula in Ano is very common surgical condition necessitating safe treatment modality as open surgery may result anal incontinence in most of the time. Fistula-in-Ano is one such disease where ideal care delivery is still a challenge. It may be because of nature of disease, regional anatomy, hygiene, etc. Though in this disease many *Ksharasutras* are tried, *Apamarga Ksharasutra* is widely being practiced. When we go through the classics, we get reference regarding *Tankana* grouped into *Kshara Dravyas*. This *Tankana* is not widely practiced. *Apamarga Kshara* is very effective but preparation of this *Apamarga Kshara* is not at all a easy process. It needs burning of lot of *Apamarga* plants, then process including boiling etc, and at the end we get very little quantity of final product. In the other hand *Tankana*, as per reference, is also *Kshara*, cost effective and abundantly available hence this study is planned to evaluate the efficacy of *Tankana Ksharasutra* in the management of Fistula in Ano which is referred as *Bhagandara* in Ayurveda.

Key words: *Bhagandara, Fistula-In-Ano, Tankan Kshara Sutra.*

INTRODUCTION

The Fistula in ano is difficult problem that surgeon have been struggling from centuries. Appropriate treatment is based on three central principles 1. control of sepsis 2. closure of the Fistula 3. maintenance of continence.

The incident of Fistula in ano is 9/1,00,000 even though the current treatment modalities in Fistula like

Fistulactoy, fibrin glue, anal Fistula plug, LIFT procedure, Bio LIFT, seton are being adopted, still patients are not getting satisfactory results.

The ideal treatment for an Anal Fistula should be associated with no recurrence rate, good safety margin and good quality of life.

The word Fistula is derived from a Latin word a reed, pipe or flute. It implies a chronic granulating track connecting two epithelial lined surfaces. These surfaces may be cutaneous or mucosal. The anal fistula is a single track with an external opening in the skin of perianal region and an internal opening in the modified skin or mucosa of anal canal or rectum.

Fistula-in-ano is one of the most common ailments pertaining to ano-rectal region. This disease causes discomfort and pain to patient, which creates problems in routine work. As the wound is located in anal region which is more prone to infection, thus takes long time to heal and the condition remains troublesome, operative procedures often leads to

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complications like recurrences and incontinence. To alleviate such problems in management of this disease, it was thought to find out some technique to treat these cases without operative complications.

The Ayurvedic management of anorectal disorders is becoming more popular especially in Fistula in ano aspect. *Apamarga Kshara* being widely used in fistula in ano management it is need of hour to find a new drug which is having good qualities can be tried. When we consider the properties of *Tankan* like *Kashaya Rasa*, *Ushna Veerya*, *Madhura Vipaka*, *Ruksha* and *Laghu Gunas* is in favour with *Kshara* qualities. *Acharya Sushruta* has also explained to consider this plant in preparation of *Kshara*, as its having above mentioned qualities, it can be considerable for the preparation of *Ksharasootra*.^[1]

In Ayurvedic classics, this disease has been described with the name of *Bhagandara*, which has more similar signs and symptoms with Anal Fistula. The importance of this disease was first realized by *Sushruta* (800-1000 B.C.), The Father of Indian Surgery, who described it elaborately in his treatise. But already *Charaka* (1000 B.C.) has mentioned that *Ashwa Pristagamana* (Horse riding) is one of the causative factors for *Bhagandara* and advocated *Kshara Sutra* in the management.^[2]

Similarly, in Modern surgery the use of ligation and some irritant chemicals like urithane and silver nitrate has been advised but most of the modern surgeons depend on operative treatment for this disease where they follow the radical excision of the track along with the removal of major portion of surrounding tissue. These patients require hospitalization for a long period and suffer to a great extent by physical and economical loss.^[3]

The *Kshara Sutra* therapy was practiced and used in since long with great success and without recurrences. The Standard *Kshara Sutra* is prepared by repeated coatings of *Snuhi Ksheera*, *Apamarga Kshara* and *Haridra*. But some of the problems are faced during the collection and also in the course of *Kshara Sutra* therapy. They are as follows;

1. Collection of *Apamarga* plant is very difficult because it is a seasonal plant available in winter and rainy season and time taking process.
2. *Apamarga Kshara Sutra* produces much burning pain during primary and successive changes.
3. Local irritant skin reactions occur during course of therapy.^[4]
4. Treatment is sometimes very difficulty in sensitive patients like children, females and elders.

To overcome these disadvantages was of at most importance to make the treatment widely popular and acceptable. In spite of the good rates of cutting, severe pain and burning sensation caused during the treatment with held many patients from accepting this treatment.

Overcoming the causation of pain and burning sensation was a very important necessity because of which surgeons of Ayurveda came out with newer ideas. Thus it gave to many *Kshara Sutras* were tried out in the department like *Arka Kshara Sutra*, *Apamarga Kshara Sutra*, *Vibhitiki Kshara Sutra* etc.^[5] Though each of the thread had good cutting rates and other preparation advantages they also had some disadvantages.

Therefore in the present study, the *Tankan Kshara* has been tried which is known for its *Katu Rasa*, *Rooksha*, *Teekshna*, *Usna Guna* and *Lekhana*, *Rechana*, *Vranaropaka* properties. which are mentioned in *Rashtarangani*.^[6]

Considering the above problems, we are in need to find out such a drug which is easily available and equally effective. The idea behind the present work is to find out the effectiveness of *Tankan Kshara Sutra* in the management of *Bhagandara* and find out such a treatment, which is economical, easily available, as well as minimize the problems of *Kshara Sutra* therapy.^[7]

It is a comparative study in which 20 subjects were selected in each group to compare the efficacy of *Apamarga Kshara Sutra* as control group and *Tankan*

Kshara Sutra as treated group. The results obtained are given in the present study.

OBJECTIVES OF THE STUDY

To evaluate the effect of *Tankana Ksharasutra* and *Apamarga Ksharasutra* in the management of *Bhagandara* (Fistula In Ano)

MATERIALS AND METHODS

The present study has been undertaken to analyze *Tankan Ksharasutra* and to compare it with *Apamarga Ksharasutra* in the management of *Bhagandara* (Fistula-in- Ano).

Present study was an open clinical study in which 40 patients were selected on the basis of simple random sampling (SRS) procedure and divided in 2 equal groups. It was performed on the patients who attended the Outpatient and Inpatient Department of Shalya Tantra, S.J.G. Ayurvedic Medical College & Hospital, Gavimath Campus, Koppal- 583231, Karnataka

Group I - 20 Patients were treated with *Tankan Ksharasutra*.

Group II - 20 Patients were treated with *Apamarga Ksharasutra*.

Inclusion criteria

- Patients aged between 20- 50 years.
- Clinical signs and symptoms of all types of *Bhagandara*

Exclusion criteria

- HIV and HBsAg positive patients.
- Secondary Fistula due to Ulcerative colitis, Crohn's disease, Tuberculosis, Carcinoma of rectum.

Assessment criteria

The clinical assessment of the patient were conducted before and after treatment and accordingly the effectiveness were evaluated as per the assessment criteria fixed. The subjective and objective parameters for assessment are as follows.

Subjective Parameters

Pain

G0	Absence of pain/no pain.
G1	Mild - Pain that can easily be ignored.
G2	Moderate - pain that cannot be ignored, interferes with function, and needs treatment from time to time.
G3	Severe - That is present most of the time demanding constant attention.

Discharge

Assessed by measuring the discharge by a pad of (3× 3) × 1 cm.

G0	No discharge
G1	Mild discharge - single pad is sufficient per day
G2	Moderate discharge - 2 to 3 pads are necessary per day
G3	Profuse discharge - more than three pads are necessary per day.

Constipation

G0	No constipation
G1	Mild
G2	Moderate
G3	Severe

Objective Parameter

$$U. C. T = \frac{\text{Total no. of days taken to cut through the tract}}{\text{Initial length of tract in cms}}$$

OBSERVATIONS AND RESULTS

The efficacy of Standard *Apamarga kshara Sutra* and *Tankan Kshara Sutra* have been studied in 40 patients who attended OPD of Dept. of P.G. Studies in Shalya Tantra, SJGAMC and Hospital. These patients divided into two groups. In control group *Apamarga Kshara*

Sutra was applied, while in other group Tankan Kshara Sutra was applied.

All 40 patients of Bhagandara have been analysed for age, sex, habitat, socio-economic status, type of Bhagandara, type of Fistula, chronicity of disease, position of external openings, length of the fistulous track, clinical findings, unit cutting time etc. were observed and noted.

The Unit cutting time means the time taken by Kshara Sutra to cut one cm of fistulous track in weeks. The average U.C.T. of treated group (Tankan Kshara Sutra) was calculated and compared with control group (Apamarga Kshara Sutra).

The process of healing was started with the cutting of the track during the course of treatment. However, the small area was still remained to heal completely at the end of total cut through which took 8 to 10 days in treated groups in complete closure of the wound whereas 10-12 days were taken for healing completely in control group.

Total average Unit cutting time

Finally total average U.C.T. of both control and treated group were evaluated and compared with control group. The analysis shows that average U.C.T. was 0.93 cm/week in treated group which is lesser in comparison to control group as 1.41 cm/week.

Assessment of Pain, discharge, constipation in comparison to Group A and B.

It was observed that degrees of pain felt by the patients at the time of changing thread and subsequent change of Tankan Kshara Sutra was significantly less in compared to Apamarga Kshara Sutra.

RESULTS

Table 1: Average Unit cutting time in cm/week in Control and Treated Groups

Group	N	Mean	Std. Deviation	Std. Error Mean
Group A	20	1.41	0.22	0.05
Group B	20	0.93	0.16	0.03

Table 2: Showing the effect on Pain, discharge, constipation in comparison Group A & B

After treatment	Group A-Apamarga Ksharasutra				Group B-Tankan Ksharasutra				t
	N	\bar{X}	\pm S. D	\pm SE	N	\bar{X}	\pm S. D	\pm SE	
Pain	20	1.50	0.51	0.11	20	0.85	0.49	0.11	4.10
Discharge	20	0.85	0.49	0.11	20	0.60	0.50	0.11	1.59
Constipation	20	0.30	0.47	0.11	20	0.20	0.52	0.11	0.64

Table 3: Showing the effect on 1st Follow-up.

Follow up 1	Group A-Apamarga Ksharasutra				Group B-Tankan Ksharasutra				t
	N	\bar{X}	\pm S. D	\pm SE	N	\bar{X}	\pm S. D	\pm SE	
Pain	20	0.60	0.50	0.11	20	0.35	0.49	0.11	1.59
Discharge	20	0.30	0.47	0.11	20	0.25	0.55	0.11	0.31
Constipation	20	0.20	0.52	0.11	20	0.15	0.37	0.08	0.35

Table 4: Showing the effect on 2nd Follow-up.

Follow up 2	Group A-Apamarga Ksharasutra				Group B-Tankan Ksharasutra				t
	N	\bar{X}	\pm S. D	\pm SE	N	\bar{X}	\pm S. D	\pm SE	
Pain	20	0.10	0.31	0.07	20	0.15	0.37	0.08	-0.47
Discharge	20	0.05	0.25	0.05	20	0.05	0.25	0.05	0.00
Constipation	20	0.15	0.49	0.11	20	0.25	0.64	0.14	-0.56

DISCUSSION

In the present study total cases were divided into 40 cases into 2 groups. First group (Group A) as control group, second group (Group B) as treated group. In Group A, *Apamarga Kshara Sutra* (*Snuhi ksheera*, *Apamarga Kshara* and *Haridra Churna*) were used and in Group B, *Tankan Kshara Sutra* (*Snuhi Ksheera*, *Tankan Kshara* and *Haridra Churna*) was used. 20 cases were included in each group, which were treated on the line of previous works and study carried out on various parameters including clinical findings and unit cutting time (in cm/week) to know the exact duration of treatment.

Clinical findings like pain, discharge and constipation etc. were observed during primary and successive application of medicated thread in control and thread groups. The severity of pain and discharge after cut through were analyzed and was less in treated group as compared to control group.

Unit cutting time

The unit cutting time was analyzed on various parameters like age, sex, *Prakriti*, type of *Bhagandara*, type of *Fistula*, etc. There are several factors, which modifies the Unit Cutting Time as follows:

1. U.C.T. is less in subcutaneous and low anal *Fistulas*.
2. U.C.T. is high in cases of high rectal *Fistula*, *Fistula* with abscess and transsphincteric *Fistula*.
3. Presence of infection and inflammation delays the unit cutting time.

The analysis shows that average U.C.T. was 0.93 cm/week in treated group which is lesser in comparison to control group as 1.41 cm/week.

Still the advantages of *Tankan Kshara Sutra* over *Apamarga Kshara Sutra* can be enumerated as follows:

Easy availability

Tankan is a very common drug, which is cost effective and abundantly available in all parts of the country. Where *Apamarga Kshara* is not at all a easy process. It

needs burning of lot of *Apamarga* plants, then process including boiling etc. and at the end we get very little quantity of final product seasonal plant.

Less Pain and Burning sensation: *Tankan* has *Katu*, *Rooksha*, *Teekshna* and *Ushna* properties. So in treated group there were less pain and burning sensation found in comparison to control group and after cut through the wound healing was same in the treated group compared to in control group.

CONCLUSION

Tankan has *Katu*, *Rooksha*, *Teekshna* and *Ushna* properties. Patients treated with *Tankan Ksharasutra* experienced less pain and burning sensation in comparison to control group. After cut through the wound healing was same in the treated group compared to control group. The present study found to be encouraging as the patients treated with *Tankan Ksharasutra* reported minimum discomfort as compared to the group who have been treated with *Apamarga Ksharasutra*. The cutting time is longer in *Tankan Ksharasutra* group but patients did not feel much discomfort when compared to other group. So this can be best utilized in patients who can't tolerate pain and burning sensation. The availability of *Tankan* is easy, so *Tankan Ksharasutra* can be easily prepared. Further studies can show new vista in the management of *Fistula* in ano in general and *Tankan Ksharasutra* in particular.

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