



## Clinical Research

# A comparative clinical study of *Snuhi Ksheera Sutra*, *Tilanala Kshara Sutra* and *Apamarga Kshara Sutra* in *Bhagandara* (Fistula in Ano)

Supreeth Joyal Lobo, C. Bhuyan<sup>1</sup>, S. K. Gupta<sup>2</sup>, T. S. Dudhamal<sup>3</sup>

Lecturer, Department of Shalya Tantra, P. N. Panicker Souhruda Ayurveda Medical College and Research Centre, Kanhangad, Kasargod District, Kerala, <sup>1</sup>Director, Centre for Care of Ano-Rectal Research by Indian System of Medicine and Allied Sciences, Bubneshwar, Odisha, <sup>2</sup>Associate Professor and I/C Head, <sup>3</sup>Assistant Professor, Department of Shalya Tantra, Institute for Post Graduate Teaching and Research in Ayurveda, Gujarat Ayurved University, Jamnagar, Gujarat, India

### Abstract

*Bhagandara* (Fistula in Ano) at modern parlance is a common anorectal condition prevalent in the populations worldwide and its prevalence is second highest after *Arsha* (hemorrhoids). *Kshara Sutra* (K.S.) is one of the chief modality in the treatment of *Bhagandara* in Ayurvedic science. Exploration of the new plants for the preparation of *Kshara* as a better substitute to *Apamarga Kshara* is the need of the hour. To find out an effective alternative to *Apamarga K.S.* in view of easy processing, a *Snuhi Ksheera Sutra* without any *Kshara* and the *Tilanala K.S.* were opted for their clinical evaluation. Total 33 cases of *Bhagandara* were divided randomly into 3 groups, having 11 patients in each group. In Group A, *Snuhi Ksheera Sutra*; in Group B, *Tilanala K.S.* and in Group C, *Apamarga K.S.* were used. Assessment was done on objective (Unit Cutting Time - UCT) and subjective parameters. Statistically insignificant difference was observed in the efficacy of treatment by subjective parameters like pain, discharge, etc. between the three groups. It was found that *Tilanala K.S.* showed higher UCT (9.76 days) while lower in *Snuhi Ksheera Sutra* (7.42 days) as compared to *Apamarga K.S.* (8.82 days). Thus *Tilanala K.S.* can be used as a substitute for *Apamarga K.S.* and *Snuhi Ksheera Sutra* can be employed in the recurrent fibrosed cases of *Bhagandara*.

**Key words:** *Apamarga*, *Bhagandara*, fistula in ano, *Snuhi Ksheera Sutra*, *Tilanala Kshara Sutra*, Unit Cutting Time

## Introduction

*Shalya Tantra* was at its zenith in Sushruta's time and the contents of *Sushruta Samhita* can be compared to any book on surgery written centuries later. *Bhagandara* (Fistula in ano) is told callous to be cured and is considered under the *Ashta Mahagadas*.<sup>[1]</sup> (Eight grave disorders).

According to a recent study conducted on the prevalence of anal fistula in India by Indian Proctology Society in a defined population of some states, approx. varied from 17 to 20% while in a London hospital approximately 10% of all patients and 4% of new patients were reported to suffer from this disease among the anorectal disorders.<sup>[2]</sup>

**Address for correspondence:** Dr. Supreeth Joyal Lobo, Jossys Ayur Care, Ayurveda Speciality Hospital, Uppinangady, Puttur Tq., Dakshina Kannada Dist., Karnataka-574241, India.  
E-mail: supreethal@yahoo.co.in

To combat such critical anorectal problems, a comprehensive approach through Ayurveda has been extended with definite and a positive outcome. It is such a simple, safe and sure remedy for anal fistula and it is becoming universally acceptable day by day. The Indian Council of Medical Research (ICMR) has validated this unique and effective approach.<sup>[3]</sup>

K.S. treatment heals the fistulous tract with the integrity of sphincters and the existing data reveal negligible chances of recurrence. K.S. is a scientifically validated treatment in the management of *Bhagandara*. The *Apamarga K.S.* is well proven to be an effective treatment for fistula in ano and has been standardized by Central Council for Research in Ayurvedic Sciences (CCRAS), an apex research organization of Government of India (GOI) in the field of Indian system of medicine.<sup>[4]</sup>

It is quiet difficult to solely depend upon *Apamarga* only because of its limited availability globally. India is a vast country, with varied flora and there is also a need for search of the alternate plant sources which may give better results. Sushruta has advocated the use of *Tila Kalka* as *Lepa* (application of

paste) in *Bhagandara Chikitsa*.<sup>[5]</sup> Moreover, in ethnomedicine as a folklore treatment, *Tila Kalka* is used in the treatment of *Bhagandara* (In the form of local application in fistula tract).

Similarly, the rationale behind including the classical *Snuhi Ksheera Sutra* in this study was to reduce the labor and time required in preparing *Kshara* for K.S., if it gives the same result as K.S. This concept was based on the version given by Chakradutta on K.S. preparation.<sup>[6]</sup> *Snuhi Ksheera* possesses *Shodhana* as well as *Ropana* properties.<sup>[7]</sup> As far as the *Rasa Panchaka* of the drugs is considered, *Apamarga*, *Tilanala* and *Snuhi*, all the three are having *Katu*, *Tikta Rasa*; *Ushna Virya*; *Katu Vipaka* and *Kapha-Pitta Shamaka* properties.

Hence, to develop an alternative to *Apamarga Kshara Sutra* in view of easy processing, a *Snuhi Ksheera Sutra* without any *Kshara* and the *Tilanala Kshara Sutra* in Bhagandara were opted for the clinical evaluation for the first time in its kind of study.

## Aims and Objectives of the Study

- To evaluate the efficacy of *Tilanala K.S.* and *Snuhi Ksheera Sutra* in the management of *Bhagandara*.
- To compare the clinical efficacy of *Tilanala K.S.* and *Snuhi Ksheera Sutra* with standard *Apamarga K.S.*

## Materials and Methods

### Selection of patients

Patients were selected from the IPD of the Dept. of Shalya Tantra, as well as from the special surgical diagnostic camps. Total 33 patients of *Bhagandara* divided into three groups.

### Inclusion criteria

- Diagnosed cases of *Bhagandara* (Fistula in ano) of age group of 25-70 years of either sex were selected. (below 25 years less incidences of fistula in ano and above 70 Years the patients may unfit for anesthesia and surgery).
- Fistula in ano associated with tuberculosis (pulmonary TB), diabetes mellitus, hypertension, anemia, amoebiasis were also included in the study, subjected to the disease is under controlled state.

### Exclusion criteria

- Tuberculosis of hip joint or spine (as the prognosis is not good)
- Osteomyelitis of femur or pelvic bones
- Chronic or acute ulcerative colitis
- Intestinal and pelvic malignancies
- Venereal diseases and HIV
- Strictures of urethra causing urethral sinuses
- Crohn's disease
- Pregnancy

### Investigations

Routine hematological, biochemical, urine and stool examinations were done to rule out the pathological conditions mentioned above.

### Radiological examinations

1. X-ray chest PA view (in all 3 groups)

### Grouping

Group A -	<i>Snuhi Ksheera Sutra</i>
Group B -	<i>Tilanala K.S.</i>
Group C -	<i>Apamarga K.S. (standard)</i>

All these *Kshara Sutr*as were prepared in the Department of Shalya Tantra, IPGT&RA Jamnagar.

2. Fistulography (in high anal and recurrent fistulae)

### Pre-operative preparation

- Written informed consent was taken
- Part preparation was done
- Patient was kept nil orally for 6 hours
- Inj. Tetanus Toxoid, 0.5 ml, I/M was given
- Inj. Xylocaine sensitivity test was done
- Soap water enema was given twice, around 10 pm at previous day of operation and around 7 am on the day of operation.
- Preparation of operation theatre and sterilization of instruments were done.

### Operative procedure

The patient was kept in lithotomy position, perianal region was cleaned with *Triphalaa Kwatha* and draping was done after giving spinal anaesthesia. In some patients, local anaesthesia was used and it was given after keeping the patient in lithotomy position. When the patient was assured, gloved index finger was gently introduced into the rectum and a suitable metallic probe was passed through the external opening of the fistula. The probe was forwarded along the path of least resistance to reach into the lumen of anal canal through the internal opening, guided by the index finger of the other hand inserted in to the rectum and the tip of probe was finally directed to come out of the anal orifice. In case of externally blind fistula, the tip of the probe was pushed to make the proximal opening in the anal orifice. Then a suitable length of K.S. was taken and threaded into the eye of the probe. Thereafter, the probe was pulled out through the anal orifice, to leave the K.S. in situ i.e. in the fistulous tract. The two ends of the K.S. were tied together with keeping the gap of index finger outside the anal canal. This procedure is termed as 'primary threading'. After this a gauze piece (surgical pad) soaked with *Jati Kalpa Taila* was applied, tied with the help of *Gophana Bhand*a (T-bandage). The same procedure was adopted for all the three groups. The *Kshara Sutra* threading (KST) before treatment, during treatment and after treatment is shown in Figures 1-3, respectively.

### Postoperative measures

- Patient was kept nil orally till complete waving off of the anesthetic effect is achieved i.e., maximum for 6 hours.
- I/V fluids were given as per the requirement.
- Suitable analgesic and antibiotics were administered as per the requirement.
- General management

Systemic drugs prepared by Pharmacy of Gujarat Ayurved University, Jamnagar were advocated in all the three groups,

- *Ushnodaka Avagaha* (Sitz Bath) with *Sphatikadi Yoga* thrice in a day.
- *Matra Basti of Jati Kalpa Taila*, 10 ml once daily (by anal route).

- *Triphala Guggulu* – 2 tabs (1 g) orally, after food, twice daily, with warm water.
- *Candhaka Rasayana* 2 tabs (500 mg) orally, twice daily after food with warm milk.

#### Changing the K.S. by rail road method

On every seventh day, the K.S. was changed with a new *Sutra* by the rail-road method. In this method, the K.S. was tied at one end and the knot tightened against the knot of the thread *in situ*. The K.S. at the anal verge was clamped with forceps and cut in between the knot and forceps. The *Sutra* was slowly pulled out and the new K.S. was replaced by the old one. The knot of the new K.S. was secured after cutting and removing of old K.S. The measurement of the old *Sutra* was recorded finally to assess the progress of cut through of the tract. The patients were advised to take rest for some time and then allowed to go back for their routine work.

#### Duration of the treatment

- The changing of K.S. every week was repeated till the K.S. got cut through the tract completely and the duration solely depended on the length of the fistulous tract.

#### Follow-up period

Follow-up was done once in every 30 days for 3 months after the completion of treatment. For each follow-up visit, the patients were examined for any recurrence of disease or any associated lesion of the anorectal region.

#### Assessment criteria

1. Assessment criteria for the parameters has been prepared by considering the previous clinical research works conducted at IPGT & RA. Subjective parameters like pain, swelling, discharge, itching and size of the wound, were assessed by scoring patterns.
2. Objective parameter:
  - Unit Cutting Time (UCT) was measured as per the formula.<sup>[1]</sup> *Prakriti* assesment criteria adopted form questionnaire for *Prakriti* assesment prepared by Dr. A. S. Baghel & Prof. R. R. Dwivedi in PhD thesis, Gujarat Ayurved University, Jamnagar 2005.

#### Statistical design

- a. Paired 't' – test of significance
- b. Unpaired 't'- test for inter group comparison

#### Observations

The observation on demographic data was presented in Table 1. All the patients were observed for type of *Bhagandara* according to Sushruta's and Vagbhata's classification and it was observed that maximum (16.19%) patients were having *Parisravi* and *Ruju* type of *Bhaganadara* [Table 2].

#### Parameters used for assessment of pain

Grade – 0	No pain
Grade – 1	Mild
Grade – 2	Moderate
Grade – 3	Severe
Grade – 4	Unbearable



Figure 1: Before treatment



Figure 2: During treatment



Figure 3: After treatment

Type of *Bhagandara* as per contemporary medicine having subcutaneous fistula was observed in maximum (24.25%) patients [Table 3].

The entire patients were examined for type of fistula tract and number of external opening and it was seen that maximum

**Parameters used for assessment of itching**

Grade – 0	No itching
Grade – 1	Mild and occasional itching
Grade – 2	Moderate and frequent itching
Grade – 3	Moderate and frequent itching
Grade – 4	Severe and continuous itching

**Parameters used for assessment of discharge**

Grade – 0	No discharge
Grade – 1	Mild (If wound wets 1×1-cm gauze piece)
Grade – 2	Moderate (If wound wets 2×2-cm gauze piece)
Grade – 3	Severe (If wound wets more than 2-cm gauze piece)
Grade – 4	Excruciating (Continuous and profuse discharge)

**Parameters used for the size of the wound**

Grade – 0	Healed
Grade – 1	Wound within 0.5-1cm
Grade – 2	Wound within 1-2cm
Grade – 3	Wound within 2-3cm
Grade – 4	Wound more than 3cm

**Mean unit cutting time**

Groups	Mean cutting time
Group - A (Snuhi Ksheera Sutra)	7.42 days/cm
Group - B (Tilanala Kshara Sutra)	9.76 days/cm
Group - C (Apamarga Kshara Sutra)	8.82 days/cm

**Table 1: Demographic data: n=33**

Observations	No. of patients	Percentage
Age (20-40 years)	21	63.60
Male	29	87.88
Occupation (Service sector)	8	24.25
Socio economic Status (middle class)	13	36.38
<i>Vata Pittaja Prakriti</i>	13	36.38
<i>Pitta Kaphaja Prakriti</i>	11	33.34
<i>Kapha Vataja Prakriti</i>	9	27.26
Urban habitat	17	51.52
Rural habitat	16	48.49
Vegetarian	24	72.73
Tobacco chewing	21	63.64
<i>Viruddha Ahara</i>	17	51.52
<i>Madhyama Koshtha</i>	19	57.56
<i>Krura Koshtha</i>	13	39.40

48.47% of patients had complete tract [Table 4] and single external opening was observed in 54.55% of patients [Table 5].

The duration of the treatment was continued till the *Sutra* got cut through the tract completely. In all the three groups i.e.,

*Snuhi ksheera Sutra*, *Tilanala K.S* and *Apamarga K.S.* (All these *Kshara Sutr*as were prepared in the *Kshara Sutra* laboratory of *Shalya Tantra* Department, *IPGT&RA*, *Jamnagar*) all the patients had complete cut through of the tract.

The shortest duration of treatment was in a patient of *Snuhi Ksheera Sutra* group (Group A) where the tract was 1.5 cm and 9 days were taken for the cut through of the tract.

The longest duration of treatment was in a patient of *Tilanala K.S.* group who had multiple tracts and it took 126 days for the complete cut through of the 11 cm fistulous tract.

25 patients completed their follow-up period and no patient was reported with recurrence.

**Results**

After *Kshara Sutra* application all patients were assessed for relief in sign and symptoms. In patients of Group-A statistically significant results were observed in pain and discharge while highly significant results were seen in itching sensation, swelling and size of wound [Table 6]. In patients of Group-B statistically highly significant results were observed in all symptoms like pain, discharge, itching sensation, swelling and size of wound [Table 7]. In patients of Group-C statistically significant result was observed in itching sensation while highly significant results were seen in pain, discharge swelling and size of wound [Table 8].

**Discussion**

The management of fistula-in-ano by Setons is the contribution of *Hippocrates* (460-356 BC) but the idea of the setons is derived from the *K.S.* treatment which is being used for treating the disease *Bhagandara*, since the period of *Sushruta*.<sup>[8]</sup> *Sushruta* and *Vagbhata* have told *Asthi Shalya* as one of the causative factors of fistula-in-ano and this holds true even today i.e., by impaction of foreign body in the terminal part of the *Guda* either causes an abscess in the vicinity of the anal canal which ultimately develops the *Bhagandara/Fistula* in ano.<sup>[9]</sup> *Goligher* in his text book of *Surgery* of the anus, rectum and colon mentions that “Occasionally a foreign body, such as a rabbit or fish-bone or particle of egg-shell may be lodged in the anorectal region, helping to cause the chronic infective process and as a formation of fistula.”<sup>[10]</sup> The description of *Bhagandara Pidakaa* (fistulous abscess) clearly shows that *Sushruta* had an idea regarding the occurrence of a fistulous abscess and he was also well aware that, not all abscesses in this region lead to the causation of fistula-in-ano but only *Bhagandara Pidika*<sup>[11]</sup> (fistulous abscess) is converted in to *Bhagandara* (Fistula in ano). The description of blind internal, blind external fistula, the detailed techniques of surgery i.e., excision or fistulectomy, are available in detail and it shows the advancements that had taken place for the management of *Bhagandara* at the time of *Sushruta*. In fact it may be remarked that the present day modern techniques are just a reflection of his principles.

The art of probing i.e., ‘*Eshana Karma*’ was well mastered by *Sushruta* owing to which he classified *Bhagandara* and has given a very scientific classification into *Antarmukha* and *Bahirmukha* varieties of *Bhagandara*.<sup>[12]</sup> *Sushruta* was practising more than 10 types of incisions especially in *Shataponaka* and

**Table 2: Type of Bhagandara: n=33**

Type of Bhagandara	No. of patients			Total	Percentage
	Group A	Group B	Group C		
<i>Shataponaka</i>	1	1	2	4	12.09
<i>Ushthragreeva</i>	3	1	1	5	15.16
<i>Parisravi</i>	3	2	1	6	18.19
<i>Shambukavarta</i>	1	1	1	3	09.09
<i>Unmargi</i>	1	0	1	2	06.06
<i>Parikshepi</i>	0	1	1	2	06.06
<i>Riju</i>	1	3	2	6	18.19
<i>Arsho</i>	1	2	2	5	15.16
<i>Bhagandara</i>					
Total	11	11	11	33	100.00

**Table 4: Types of fistulous tract on probing: n=33**

Type of fistulous tract	No. of patients			Total	Percentage
	Group A	Group B	Group C		
Blind internal	2	1	3	6	18.19
Blind external	3	4	4	11	33.34
Complete	6	6	4	16	48.47
Total	11	11	11	33	100.00

*Parisravi* types of *Bhagandara*.<sup>[13]</sup> The incisions are indicated on the basis of the course of tracts. The character of *Kharjura Patra* or date palm leaf consists of central axis on which the leaves are arranged, probably the nature of incision looks like the main incision along with small branched incision. But when individual date palm leaf is considered which looks like V-shape, indicates laying open of the fistulous tract as done in fistulectomy. Vagbhata<sup>[14]</sup> gives importance to the anatomical relation of *Bhagandara* and says that, the *Bhagandara* localised in *Pravahini* and *Samvarani Vali* should be refused to treat. The explanation about the *Bhagandara* treatment in relation to the *Guda Valis* shows the height of knowledge of Ayurvedic scientists about the consequences of surgical management of fistula in ano and the deformities occurs thereafter.<sup>[15]</sup>

The incidence of *Bhagandara* was commonly seen in the age group of 20-40 years with peak incidence of 63.60%. It is the active period of a person's life and there will be many social assignments in this stage of life. The persons are casual to this problem because it starts with a minimal discomfort in anal region. In this study, 87.88% patients were males, which go hand in hand with a study conducted in a large population which concluded that the prevalence rate is double in males compared to female.<sup>[2]</sup> 48.49% patients were from rural areas and 51.51% patients were from Urban Areas which showed almost equal prevalence rate in the rural as well as urban populations. 72.73% patients were vegetarians in this study. The high percentage of disease occurrence in vegetarian populations suggested their dominance in the Gujarat state and may be due to the oily and spicy vegetarian dominated diet of the locality. 63.64% patients had the habit of tobacco chewing, a common habit observed among the people of Saurashtra region. 51.52% of the patients had the habit of consuming *Viruddahara* as they consumed salted

**Table 3: Types of Bhagandara (Fistula in Ano) as per contemporary medicine: n=33**

Type of fistula in ano	No. of patients			Total	Percentage
	Group A	Group B	Group C		
Intersphincteric	2	1	2	5	15.16
Transsphincteric	3	1	2	6	18.19
Suprasphincteric	3	2	2	7	21.22
Extrasphincteric	1	1	1	3	9.09
Subcutaneous	3	2	3	8	24.25
Submucous	2	1	1	4	12.13

**Table 5: Analysis of patients in relation to number of external openings: n=33**

No of external openings	No. of patients			Total	Percentage
	Group A	Group B	Group C		
One	4	6	8	18	54.55
Two	4	3	1	8	24.25
>Three	3	2	2	7	21.22
Total	11	11	11	33	100.00

*Khichadi* with milk. 57.56% patients had *Madhyama Koshtha* this factor cannot be ignored because the nature of *Koshtha* depends on the nature of *Agni Bala* which may play an important role to disturb the *Dosha* and its related disorders [Table 1].

In preoperative assessment one patient was found HIV-positive and two patients were found to be HBsAg positive and they were excluded from the study. This showed the importance of preoperative screening before K.S. treatment. In this study it was observed that 30.31% patients had the chronicity of 1-2 years and 20.20% patients were afflicted from the disease for 2-3 years. The shyness of the patient delays the consultation and treatment particularly in cases of anorectal disorders. The disease in initial stage presents only with mild aching pain with some discharge and if neglected at this stage, it may turn to be high anal fistula with multiple tracts. 64.70% patients were diagnosed as low anal fistula and 35.30% patients were of high anal category. Maximum number of patients i.e., about 70% had the external openings at the posterior perineal triangle (5, 6, and 7'o clock), as gravity causes the pus to get collected in the most dependent area, which in turn leads to the formation of abscess and ultimate fistulous opening at that particular region.

The adjuvant drugs were prescribed to achieve better outcome of the surgical management in all the groups. *Triphala Guggulu* helps in the post operative wound healing.<sup>[16]</sup> During the entire trial period maximum for 5 months use of *Triphala Guggulu* was recorded and did not cause any adverse effect. *Gandhaka Rasayana*<sup>[17]</sup> was found equally effective in preventing the infection as the chances of infection is high because there is presence of discharge from the tract till the thread is *in situ*. The specially designed Ano rectal chair was used for *Avagaha Sveda* (Sitz Bath). *Avagaha Sveda*<sup>[18]</sup> using *Sphatikadi Yoga* helped in maintaining the hygiene of the perineal part and reduced the *Shotha* (inflammation) as well as pain. *Matra*

**Table 6: Effects of *Snuhi Ksheera Sutra* (Group A): n=11**

Symptom	Mean	Standard deviation	SEM	T-value	P	Statistical result
Pain	1.727	0.647	0.195	8.859	<0.01	S
Discharge	1.364	1.206	0.364	3.750	<0.01	S
Itching sensation	2.364	1.120	0.338	6.999	<0.001	HS
Swelling	1.091	0.539	0.163	6.708	<0.001	HS
Size of the wound	1.636	0.674	0.203	7.455	<0.001	HS

S-Significant, HS- Highly Significant

**Table 7: Effects of *Tilanala Kshara Sutra* (Group B): n=11**

Symptom	Mean	Standard deviation	SEM	T-value	P	Statistical result
Pain	2.091	0.701	0.211	9.898	<0.001	HS
Discharge	2.091	1.136	0.343	6.104	<0.001	HS
Itching sensation	1.455	0.934	0.282	5.164	<0.001	HS
Swelling	1.273	0.467	0.141	9.037	<0.001	HS
Size of the wound	1.455	0.688	0.207	7.016	<0.001	HS

HS- Highly Significant

**Table 8: Effects of *Apamarga Kshara Sutra* (Group C): n=11**

Symptom	Mean	Standard deviation	SEM	T-value	P	Statistical result
Pain	2.000	0.894	0.270	7.416	<0.001	HS
Discharge	2.000	0.894	0.270	7.416	<0.001	HS
Itching sensation	1.364	1.433	0.432	3.155	<0.01	S
Swelling	1.182	0.874	0.263	4.485	<0.001	HS
Size of the wound	1.636	0.674	0.203	8.050	<0.001	HS

S-Significant, HS- Highly Significant

*Basti*<sup>[19]</sup> of 10 ml *Jaati Kalpa Taila*, daily helped in *Shamana* of the aggravated *Vata* and provided soothing effect to ano rectum from pain with easy evacuation of stools.

### Discussion on results

There are several factors, which affect the Unit Cutting Time (UCT) as follows:

1. UCT is less in submucosal, subcutaneous and low anal fistulae.
2. UCT is high in cases of fibrosed/tough scar tissue which generally created after the previous operation done for fistulae in ano and in cases of high rectal fistulae and trans-sphincteric fistulae.
3. Presence of infection and inflammation delays the UCT.

When the UCT of all three groups were evaluated, the UCT of *Ksheera Sutra* was comparatively lower (7.42 days) to standard *Apamarga* group i.e., 8.82 days. But abscess was formed at the 2<sup>nd</sup> week in four patients of this group. The patients of this group also complained of burning sensation in the post operative period and successive change of the thread for few hours. *The Snuhi Ksheera Sutra* (Group-A) can be effectively used in the cases of fibrosed and recurrent cases of fistula as the tough scar of the previous operation is likely to offer resistance in the process of cutting and delay the process of healing as well. *Snuhi Ksheera Sutra* was not found much effective in reducing the pain scores compared to the standard group whereas, *Snuhi Ksheera Sutra* (Group-A) produced much discharge in the postoperative period compared to the other two groups i.e., Group-B and Group-C.

*Tilanala K.S.* (Group-B) showed a comparatively higher UCT of 9.76 days but it did not produce any complications like burning sensation and abscess in the postoperative period. Although *Kshara* is *Tridoshaghna* and due to *Visheshakriyaavacharanaat*<sup>[20]</sup> the *Tilanala K.S.* can also be used in *Pittaja Prakriti* patients effectively. *Tilanala K.S.* (Group-B) reduced the pain scores effectively compared to *Snuhi Ksheera Sutra* (Group-A). *E. coli* was found responsible for the infection which was proved in the pus culture report of the majority of patients and was effectively controlled by *Tilanala K.S.*

The *K.S.* threading is a minor procedure and could be carried out at OPD level. The expenses required for this modality are quite low and there is no need to hospitalize the patient for longer duration. It is a boon to the sufferer of this notorious disease '*Bhagandara*' particularly who may not be able to access high-tech hospitals which requires much expenses.

### Conclusions

- *K.S.* threading (KST) therapy is a radical cure in the treatment of *Bhagandara* without complications and recurrence.
- The UCT of *Snuhi Ksheera Sutra* (7.42 days) was lower due to its acidic nature compared to the standard *Apamarga K.S.* group (9.76 days) but the cutting was not corresponding to the healing rate. So the *Snuhi Ksheera Sutra* cannot be used as a substitution to *Apamarga K.S.* in the management in *Bhagandara* but it can be employed

in the recurrent fibrosed cases of *Bhagandara*.

- The UCT of *Tilanala K.S.* was higher (9.76 days) compared to the standard *Apamarga* group but it did not produce any complications like burning sensation, abscess, etc. The *Tilanala K.S.* can be effectively used in the management of *Bhagandara* in the place of *Apamarga K.S.* in its non availability.
- Statistically there was no much significant difference in efficacy of treatment between the three groups.
- No recurrence was seen in the 3 months of follow-up.
- There was no adverse effect of any of the drugs observed during the course of study.

## References

1. Sushruta, Sushruta samhita, Sutra Sthana, Avaraneeya Adhyaya, 33/4, edited by Vaidya Jadavaji Trikamji Acharya and Narayan Ram Acharya. 1<sup>st</sup> ed. Varanasi: Chowkhambha Surabharati Prakashan; 2008. p. 236.
2. Sainio P. Fistula-in-ano in a defined population, Incidence and epidemiological aspects. Ann Chir Gynaecol 1984;73:219-24.
3. Shukla NK, Narang R, Nair NG, Radhakrishna S, Satyavati GV. Multicentric Randomized controlled clinical trial of Ksharasutra (Ayurvedic Medicated thread) in the management of Fistula in ano. Indian J Med Res 1991;94:177-85.
4. Dwivedi AK, Chaudhary M, Kulshreshtha DK, Sarin JP. Standardization of Ksharasutra. Journal of Research in Ayurveda and Siddha, 1991;12:85-92.
5. Sushruta, Sushruta samhita, Chikitsa Sthana, Bhagandara Chikitsa Adhyaya, 8/39, edited by Vaidya Jadavaji Trikamji Acharya and Narayan Ram Acharya. 1<sup>st</sup> ed. Varanasi: Chowkhambha Surabharati Prakashan; 2008p. 441.
6. Chakrapani, Chakradatta, Arsha Chikitsa., 29/148. Varanasi: Chaukhambha Surabharati prakashana; 2006. p. 44.
7. Rasik AM, Shukla A, Patnaik GK, Dhawan BN, Kulshreshtha DK, Srivastava S. Wound healing activity of the latex of *Euphorbia nerifolia* linn. Indian J Pharmacol 1996;28:107-9.
8. Sushruta, Sushruta samhita, Chikitsa Sthana, Visarpa Nadi Stanaroga Chikitsa Adhyaya, 17/29, edited by Vaidya Jadavaji Trikamji Acharya and Narayan Ram Acharya. 1<sup>st</sup> ed. Varanasi: Chowkhambha Surabharati Prakashan; 2008 p. 468.
9. Ibidem Sushruta Samhita(8), Bhagandara Nidana Adhyaya, 4/9; 282.
10. Goligher J. Surgery of the Anus Rectum and colon. 5<sup>th</sup> ed. Delhi: A.I.T.B.S Publishers and distributors; 2002. p. 178.
11. Sushruta, Nidana Sthana, Bhagandara Nidana Adhyaya, 4/3, edited by Vaidya Jadavaji Trikamji Acharya and Narayan Ram Acharya. 1<sup>st</sup> ed. Varanasi: Chowkhambha Surabharati Prakashan; 2008. p. 280.
12. Ibidem Sushruta Samhita(11), Bhagandara Chikitsa Adhyaya 8/4; 438.
13. Ibidem Sushruta Samhita(11), Bhagandara Chikitsa Adhyaya 8/10; 439.
14. Vagbhata, Astanga Hridayam, Uttara Sthana, Bhagandara Pratishedha Adhyaya, 28/21, edited by Anna Moreshwar Kunte. Varanasi: Chaukhambha Sanskrita Pratishthan, 2009. p. 879.
15. Ibidem Astanga Hridayam(14), Bhagandara Pratishedha Adhyaya, 28/22;880.
16. Watpade Y, Ukhalkar VP. The Efficacy of Triphala Guggulu in Treatment of Post Operative Wound PG dissertation at Sri Ramanand Tirth Marathwada University, Nanded, Maharashtra. 2004.
17. Laxmipathi Shastry, Yoga Ratnaakara, Rasayana adhikara, edited by Brahma Shankara Shastry. Varanasi: Chaukhambha Prakashan; 2008. p. 501.
18. Sushruta, Sushruta samhita, Chikitsa Sthana, Bhagandara Chikitsa Adhyaya, 8/36, edited by Vaidya Jadavaji Trikamji Acharya and Narayan Ram Acharya. 1<sup>st</sup> ed. Varanasi: Chowkhambha Surabharati Prakashan; 2008p.440.
19. Agnivesha, Charaka, Dridhabala, Charaka Samhita, Siddhi Sthana, Sneha Vyapat Siddhi Adhyaya, 5/52, edited by Vaidya Jadavaji Trikamji Acharya. Varanasi: Chaukhambha Surabharati Prakashana; 2008. p. 701.
20. Sushruta, Sushruta samhita, Sutra Sthana, Ksharapaka Vidhi Adhyaya, 11/2, edited by Vaidya Jadavaji Trikamji Acharya and Narayan Ram Acharya. 1<sup>st</sup> ed. Varanasi: Chowkhambha Surabharati Prakashan; 2008 p.45.

## हिन्दी सारांश

# भगन्दर रोग में स्नुहीक्षीर सूत्र एवं तिलनालक्षार सूत्र का अपामार्गक्षार सूत्र के परिपेक्ष्य में एक तुलनात्मक अध्ययन

सुप्रीत जोयल लोबो, सी. भुयाँ, एस. के. गुप्ता, टी.एस. दूधमल

भगन्दर जनसामान्य में पायी जाने वाली एक विशिष्ट गुदगत व्याधि है। भगन्दर को गुदगत विकारों में अर्श के बाद द्वितीय स्थान प्राप्त है। आयुर्वेद में भगन्दर की चिकित्सा के लिए क्षार सूत्र एक मुख्य चिकित्सा के रूप में बताया गया है। अपामार्ग के स्थान पर अन्य पौधों से क्षार बनाना आज के युग की आवश्यकता है। अपामार्गक्षार सूत्र के विकल्प में चक्रदत्त द्वारा उल्लिखित स्नुहीक्षीर सूत्र (क्षाररहित) और तिलनालक्षार सूत्र का चिकित्सकीय परीक्षण के लिए चयन किया गया। भगन्दर के कुल ३३ रोगियों को ११-११ के तीन वर्गों में बांटा गया। वर्ग 'ए' में स्नुहीक्षीर सूत्र, 'बी' में तिलनालक्षार सूत्र और वर्ग 'सी' में अपामार्गक्षार सूत्र का प्रयोग किया गया। अपामार्गक्षार सूत्र के सापेक्ष में स्नुही क्षीर सूत्र का "युनिट कटिंग टाइम" कम था और तिलनाल क्षार सूत्र का 'युनिट कटिंग टाइम' अधिक पाया गया। तीनों वर्गों में सांख्यिकीय दृष्टि से कोई महत्वपूर्ण अन्तर नहीं पाया गया। इस अध्ययन से यह निष्कर्ष निकाला जा सकता है कि तिलनाल क्षार सूत्र को अपामार्ग क्षार सूत्र के स्थान पर प्रभावशाली रूप से प्रयोग किया जा सकता है और स्नुही क्षीर सूत्र को चिरकारी एवं पुनरावर्तित भगन्दर में प्रयोग करना श्रेयस्कर पाया गया।