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CLINICAL APPRAISAL OF PAPAYA KSHIRASUTRA IN THE MANAGEMENT OF FISTULA IN ANO (BHAGANDAR)

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ABSTRACT

Background: Fistula in Ano(*Bhagandar*) is most common and notorious disease among all anorectal disorder and is prevalent in the populations worldwide and is second highest after *Arsha* (hemorrhoids). *Kshara Sutra (K.S.)* is one of the chief modalities in the treatment of *Bhagandara* in Ayurvedic science. It produces inconveniences in routine life. It causes discomfort and pain that creates problem in day to day activities. Ksharsutra has been proved as a big revolution in the treatment of fistula in ano. To find out an effective alternative to *Apamarga ksharasutra* in view of easy processing taken papaya kshir sutra opted for this clinical study. *Sushruta* the father of ancient Indian surgery has paid great attention towards *bhagandar* and dealt it systemically. **Material and Methods**:30 cases of Fistula in Ano of either sex were selected from the OPD and IPD of the CARIDD Hospital Kolkata.They were subjected for ligation of papaya kshirasutra in the Operation Theatre of CARIDD,Kolkata for the study. **Observation & Result** : UCT have been detected as mentioned in the following mentioned principle and found to be equally (slightly less as compared to as it is mentioned in the standard *Apamarga ksharasutra* therapy. **Discussion** Burning pain is less observed during the treatment of *Papaya kshirasutra* therapy. UCT is also equally observed which is slightly less than the standard *Snuhi apamarga ksharasutra* (Standard) therapy.

Keywords: *Papaya,Fistula,Bhagandar*

INTRODUCTION

In *Ayurvedic* classics, this disease has been described with the name of *Bhagandara,* which has more similar signs and symptoms with *Anal fistula. Bhagandara* is considered as one of the *Asta Mahagada* i.e., very difficult to cure [1,2,3&4]. 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 [2]. 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. *Charaka* (1000 B.C.) has given reference of *Bhagandara in Shotha chikitsa chapter* and has written very little on this disease [2&5]. It is always associated with physical and psychological agony. *Bhagandar* is so called as it break through the perineum (*Bhaga*) anus and bladder regions. The disease without an opening is called *Pidaka* and is with an opening called *Bhagandar.Su.Ni.4/3*. In Mmodern Surgery Fistula implies as an abnormal communication between any two epithelial surfaces[16&17]. *Sushruta* has mentioned *Bhagandar* under *Mahagada*. He has described its etiology, signs, symptoms, classifications, medical and surgical therapy in a scientific manner. *Chakradutta* has mentioned for the first time the preparation of *Ksharasutra,* it is the contribution of late Prof. P.G. Deshpande to the world for standardization the method of *ksharasutra preparation*, developed technique for application and management of fistula in Ano in a scientific manner.

Preparation-Dried *Apamarga* plant (Achyranthesaspera) were collected and burnt into ashes. Six parts of water added to this ash. Stirred well and kept overnight. Next morning it was macerated well and filtered through a thick cloth. This process of filtration repeated 21 times (pH of filtered paper shows neutral reaction).All the filtrates kept in a stainless vessel and heated to evaporate all the watery parts of the *Kshar* and thus collected in the form of white crystals at the bottom of the vessel and then powdered it and preserved in airtight glass bottle. Fresh latex collected from the plant *Papaya latex* by stabbing the stem/or by detaching the stem of leaves. A cabinet is prepared with a device for hot blast for drying the threads and an ultraviolet light is passed through for sterilization. Surgical cotton thread No 20 is brought and smeared the latex for 11 times. Then latex and *kshar* being smeared over the thread for 7 times alternatively. Then last 3 coatings are to be smeared by latex and *haridra* powder alternatively. Threads are properly dried and sealed in a glass tube[9&10].

Materials and Methods- 30 cases of low & high anorectal fistula irrespective of age, sex, religion and dietary habits. Diabetes mellitus patients were also taken for study after stabilizing the Fasting Blood Sugar within normal vlaue and Tuberculosis patients are taken for study after taking Anti tuberculin treatment. Malignancy and other chronic systemic disorders were excluded from the trial.

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

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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)
2. Fistulography (in high anal and recurrent fistulae)

Operative measures for ligation of Kshirasutra/Ksharasutra:

Poorva karma: Administration of mild laxatives for regularization of bowels, Written Consent, Proper local part preparation, Inj.xylocaine 2%,0.2cc test dose, Administration of inj. Tetanus toxoid.

Pradhana karma: Application of Papaya kshirasutra. The patient is placed on lithotomy position in the operation theatre and taking proper antiseptic measure ksharasutra/Ksirasutra is ligated under local anesthesia by the help of a special technique guided by a fistula probe. The thread is changed at weakly intervals and each time the length of the thread removed from the tract is measured and plotted on the graph. The efficacy of thread was assessed basing on the UCT or Unit cutting time.

UCT= Initial length of the tracks (in cms)
No of sittings required for complete excision of the track

Paschat karma: After Application of *Papaya kshira sutra*: - 1. Patients were asked to have sitz bath daily twice from 2nd day onwards. 2. To attend hospital for regular dressing and weekly change of thread. 3. To take leafy vegetables, fruits, buttermilk etc., diet which would be nutritious easily digestible to develop the general condition of the patient and to avoid constipation. 4. To avoid non vegetarian foods and spicy foods.

Observation and Results

Table 1: Age & Sex Distribution of Patients Acccording to Age and Sex

Sl No	Age group	Male	Female	Total	%
1	1-10	0	0	0	0
2	11-20	1	0	1	3.3
3	21-30	2	1	3	10
4	31-40	18	2	20	66.6
5	41-50	3	0	3	10
6	51-60	2	0	2	6.6
7	>61yrs	1	0	01	3.3
	Total	27	3	30	100

The disease is more prevalent in males and seen more in working group of people.ie, the ages between 21 to 50 years.

Table 2:

Sl No	Place of Residence	Number of Cases	Percentage
1	Urban	6	20
2	Rural	24	80
	Total	30	100

Though the disease is an infectious disease seen more in rural people. Urban people are more literate than the rural people in the light of keeping themselves healthy. In the primary stage of developing an boil they are taken proper steps to suppress or cure the disease.

Table 3: Occupational Status

Sl No	Type of work	No of Cases	Percentage
1	Sedentary	28	93.3
2	Non-Sedentary	2	6.66
	Total	30	100

Bhagandar generally seen more in sedentary group of people. The persons who are regularly habituated with some sort of physical exercise they might not suffer with this disease.

Table 4: Socio Economic Status

Sl No	Income Group	No of Patient	Percentage
1	Rich	2	6.66
2	Middle	12	40
3	Poor	16	53.3
	Total	30	100

Generally poor people are suffering more because of poor nutrition, lack in consciousness with cleanness and sanitation, not aware about the proper diet and motion clearance etc.

Table 5: Incidence of Religion

Sl No	Religion	No of Cases	Percentage
1	Hindu	23	76.66
2	Muslim	4	13.3
3	Any other religion	3	10
	Total	30	100

Table 6: Relation of Food Habit

Sl No	Nature of Food	No of Patients	Percentage
1	Vegetarian	2	6.66
2	Non vegetarian	28	93.33
	Total	30	100

Table 7: Relation to *Deha Prakriti*

Sl No	*Deha Prakriti*	No of Cases	Percentage
1	*Vatik*	4	13.3
2	*Paitik*	7	23.3
3	*Kaphaj*	19	63.3
	Total	30	100

Table 8: Results as per the Chronicity of the *Bhagandar*-

Chronicity of the *Vagandar*	Cases	UCT
<1 year	20	6.4
1-2 years	6	5.28
>2	4	4.7

Maximum patients had a chronicity of 1-2 years. The UCT was best in those with disease less than 1-year duration.

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Table 9: Results seen according to different types of *Bhagandar*

Types of *Vagandar*	Cases	UCT
Shataponak	15	05
Usthragreeva	5	4.8
Parishravi	5	6.8
Ruju	3	4.3
Shambukabarta	2	3.7

Table 10: Results according to types *of bhagandar*-

Fistula	Cases	UCT
Low anal	23	6.5
High Anal	07	5.2

Table 11: Results as per *Doshas*

Doshas	Cases	UCT
Vata	16	5.6
Pitta	7	4.8
Kapha	7	6.7

Table 12: Results as per under going surgery:

	Cases	UCT
Operated Before	6	4.5
Non operated before	24	6.5

Unit cutting time is more in cases of preliminary casesie, where patient is not exposed to any sort of surgical intervention.

Table 13: Results as per age-

Age	Cases	UCT
<20 years	1	6.8
21-40 years	23	6.5
41-60 years	05	5.7
>60 years	01	5

DISCUSSION

The incidence of a fistula-in-ano developing from an anal abscess range from 26% to 38%. One study showed that the prevalence of fistula-in-ano is 8.6 cases per 100,000 population. In men, the prevalence is 12.3 cases per 100,000 population, and in women, it is 5.6 cases per 100,000 population[16,17]. The Kshara Sutra therapy was practiced and used more than six decades with great success and practically with almost negligible recurrence in the management of *Bhagandara.* But some of the problems that we are facing during collection of *snuhi latex which* is very difficult to get the latex and time taking process and produces much burning sensation and pain during primary and successive changes[13,14,&15]. So, the present study has been done to propose the efficacy in the field of preparation of *Kshira Sutra*. Therefore, in the present study, the *Papaya kshira sutra* has been tried which is known for its *katu rasa, rooksha, teekshna, usna Guna and Lekhana, Rechana, Vranaropaka* properties. So,

the method of preparation of *Papaya kshira Sutra* is same as standard *Apamarga Kshara Sutra* technique practiced in our department. On the basis of successful management of Fistula-in-ano by Kshara Sutra it has become an accepted technique worldwide since it has been tried at many surgical centers now. In the present study total cases were divides into 30 cases. The observation of *Papaya kshira Sutra* have been made on different parameters of study like age group, sex, incidence, chronicity of disease, different types of *Bhagandara*, recurrent cases after surgical operations, number of fistulous openings. 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*.[8] 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.[9] 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."[10] 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*[11] (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 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.[8,9] During the entire trial period maximum for 5 months use of *Triphala Guggulu* was recorded and did not cause any adverse effect. *Gandhaka Rasayana*[17] 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*[8] using *Sphatikadi Yoga* helped in maintaining the hygiene of the perineal part and reduced the *Shotha* (inflammation) as well as pain. *Matra Basti*[9] 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.

CONCLUSION

Papaya kshira sutra has *Katu, Rooksha, Teekshna*, and *Ushna* properties. Patients treated with Papaya *Kshirasutra* 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 standard therapy. The present study found to be encouraging as the patients treated with papaya *KshiRasutra* reported minimum discomfort. The cutting time is longer in *Papaya kshirasutra* group, but patients did not feel much discomfort when compared to standard therapy. So, this can be best utilized in patients who can't tolerate pain & burning sensation. The availability of *papaya* is easy, so *Papaya Kshirasutra* can be easily prepared. Further studies can show new vista in the management of Fistula in ano in general and papaya *KshiRasutra* in particular. This therapy is a radical cure in the treatment of *Bhagandara* without complications and recurrence.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.

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