

KSHARASUTRA- ASSISTED TRACT NAVIGATION: A GUIDEWIRE-BASED TECHNIQUE IN MANAGEMENT OF COMPLEX FISTULA IN ANO: A SINGLE CASE STUDY

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ABSTRACT

Acharya Sushruta defined *Bhagandara* as “*Bhagagudabasthipradeshadaaranat cha bhagandara*”^[1] The *Nidana* (causative factors), *Lakshana* (clinical features), *Samprapti* (pathogenesis), *Bheda* (types), and *Chikitsa* (management) of *Bhagandara* have been extensively detailed by Acharya Sushruta, and can be correlated with the modern understanding of fistula-in-ano.^[2] Fistula-in-ano is characterized as an abnormal tract between two epithelial surfaces, commonly presenting with one or more external openings in the perianal region connected to the anal canal or rectum. This tract is lined by unhealthy granulation tissue and fibrous tissue.^[3] *Bhagandara* is classified among the *Ashtamahagada*^[4] (eight major diseases) by Acharya Sushruta, highlighting its chronic and challenging nature in terms of treatment. Several modern risk factors such as prolonged sitting, use of hard seating surfaces, and frequent travel on vehicles have been found to contribute to its development. While Acharya Charaka has provided limited discussion on this topic, he does mention *Krimi*^[5] (parasitic infection) as a possible causative factor. Direct reference about *kshara sutra* in management of *Nadivrana* and *Bhagandara*.^[6]

KEYWORDS: *Bhagandara*, Fistula-in-ano, *ksharasutra*, anal abscess.

INTRODUCTION

The pathogenesis of *Bhagandara* is closely linked to the formation of *Bhagandara Pidaka* (fistulous abscess), as described by Acharya Sushruta.^[7] Acharya detailed observations suggest an accurate understanding of the evolution of a fistulous tract from an abscess. Sushruta noted that not every abscess in the anorectal region leads to a fistula, but certain types do progress in that direction.^[8] These *Pidakas* are typically painful, reddish swellings occurring near the *Guda* (anus), *tāsām madhye kaścidgudāt prabhṛti aṅgulamātrād dvyāṅgulamātrāntarālāḥ piḍikābhinirvṛttiḥ darśyate...*” particularly in the *Anguli pradesha* around the anal area.^[9] They result from the vitiation of *Doshas*, especially *Dooshita Rakta* (vitiated blood) and *Mamsa Dhatu* (muscle tissue).^[10] Upon suppuration, these abscesses may burst or form internal tracks, eventually developing into *Bhagandara* (fistula-in-ano).^[11] *Bhagandara* considered as a dreadful condition which is *kruchrasadya* in *sadyasadyata*.^[12] *ksharasutra* prevents recurrence, condition become manageable as *ksharasutra* not only cuts tissue but also encourages continuous drainage from fistulous tract. It enables healing by

formation of new granulation tissue from the base.^[13] In this article I have taken a single case study and explained in detail regarding management, healing properities. Diet regimen and life style modifications to be followed and which are to be avoided.

CASE REPORT

- **Chief complaints:** Patient complaints of Pain, Pus discharge. Pain was throbbing in nature. Pain subsided slightly after pus evacuation, and increased on sitting. Patient had previous history of fistula in ano, four to five years ago. later it was treated with folklore method, got satisfactory relief.
- **Associated complaints:** Since 1 month, He gradually developed painful swelling near previous surgical scar, discomfort, swelling increased with time along with on and off pus discharge, Itching seen.
- Patient experienced thick foul smelling pus discharge from swelling, staining his clothes, disturbing his daily activities.
- For all the above complaints he approached SKAMCH & RC, Bangalore for better management.

AIMS AND OBJECTIVES

To evaluate the effect of *kshara sutra* ligation in *Ushtragreeva Bhagandara*.

To follow the cutting and healing effect of fistuloustract by *kshara sutra*.

VAYATHIKA VRUTANTHA

Diet: Mixed, Patient takes chicken almost every day.

Appetite: Altered.

Bowel: Regular stools once or twice a day.

Micturition: Regular 3-4 times /day.

Sleep: 6 to 8 hours of sound sleep, no day sleep.

Habits: Intake of tea and coffee once or twice a day.

Addictions: Smoking and Alcohol.

PER ABDOMEN – Soft, Nontender in all quadrants.

LOCALEXAMINATION- NATAL CLEFT INSPECTION

NUMBER OF OPENINGS: 2 openings noted.

POSITION: First openings seen approx 30 cm away from anal verge in right gluteal region.

Second opening approx 12 cm away from anal verge in right ischiorectal fossa.

DISCHARGE: Serous, pus and blood mixed discharge noted from first opening.

SURROUNDING SKIN: Appears normal. Surgical scar seen around second opening.

LOCALEXAMINATION- Perianal region.

TENDERNESS -The skin around the external opening was tender.

2. SURROUNDING AREA - No wall thickening. opening when gently pressed small quantity of purulent blood mixed pus discharge was noted.

EXAMINATION WITH A PROBE

- Probing done through first external opening in the least path of resistance.
- It passes downwards perpendicular to the plane deep into the tissues.
- Pus discharge was noted on withdrawal of the probe.

Digital Rectal Examination

Internal Opening Felt At 6 O'clock Position.

Tenderness Elicited At Internal Opening

CHIKITSA SUTRA

उष्ट्रग्रीवक्रियांशुणु। अथोष्ट्रग्रीवमेषित्वा छित्त्वा क्षारं निपातयेत्॥२०॥

पूतिमांसव्यपोहार्थमग्निरत्र न पूजितः । अथैनं घृतसंस्मृतैस्तिलैः पिष्टैः प्रलेपयेत्॥२१॥

बन्धंततोऽनुकुर्वीत परिषेकं तु सर्पिषा । तृतीयेदिवसे मुक्त्वा यथास्वं शोधयेद्भिषक् ॥२२॥

ततः शुद्धं विदित्वा च रोपयेत्तु यथाक्रमम्।

Su. Chi 8/20-22

No Bleeding /Pus Discharge Noted

Normotonic Sphincter.

Proctoscopy - Normal Rectal Mucosa With First Degree Haemorrhoids.

ROGA PAREEKSHA

Nidana - Ati yaana, Shalya (roma), apatya ahara vihara

Roopa - Shopha, sarakta pooya srava

Upashaya - Aushadha seven

Anupashaya - Ati yaana, ati asana.

SAMPRAPTI

Apathy ahara vihara and kshata multiple time

↓
Stanasmshraya in guda pradesha

↓
Pidaka formation

↓
Pidaka left untreated - Pakwata of Pidaka

↓
Pooya comes from Bhinna Pidaka

↓
Unmargi bhagandhara.

SAMPRAPTI GATAKA

Dosha - Twak, rakta mamsa meda

Doosha - Dhatusvagni

Agni - Rasavaha, Raktavaha, Mamsavaha and medovaha Srotas

Srotodushti prakara - Sanga, vimarga gamana

Udbhava sthana - Bhaga pradesha

Vyakta sthana - Guda pradesha

Adhistana - Twak, Rakta, Mamsa, Meda

Bahya - Rogamarga

Sadyasadyata - Asadhya.

VYADHI VINISHCHAYA

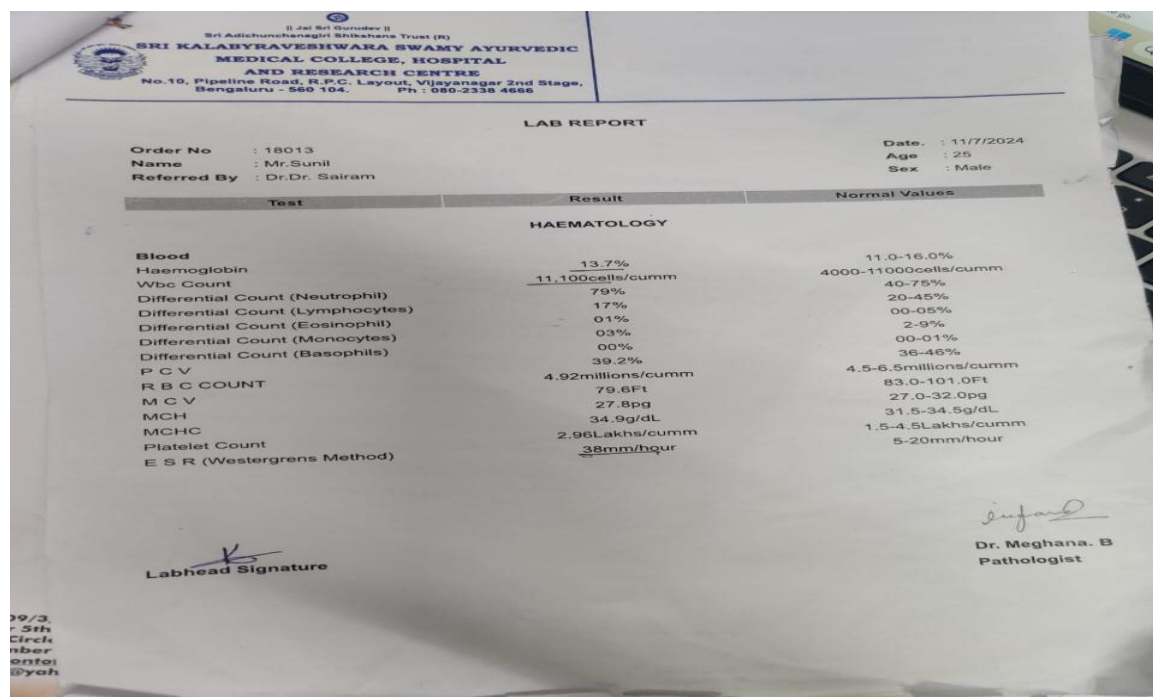
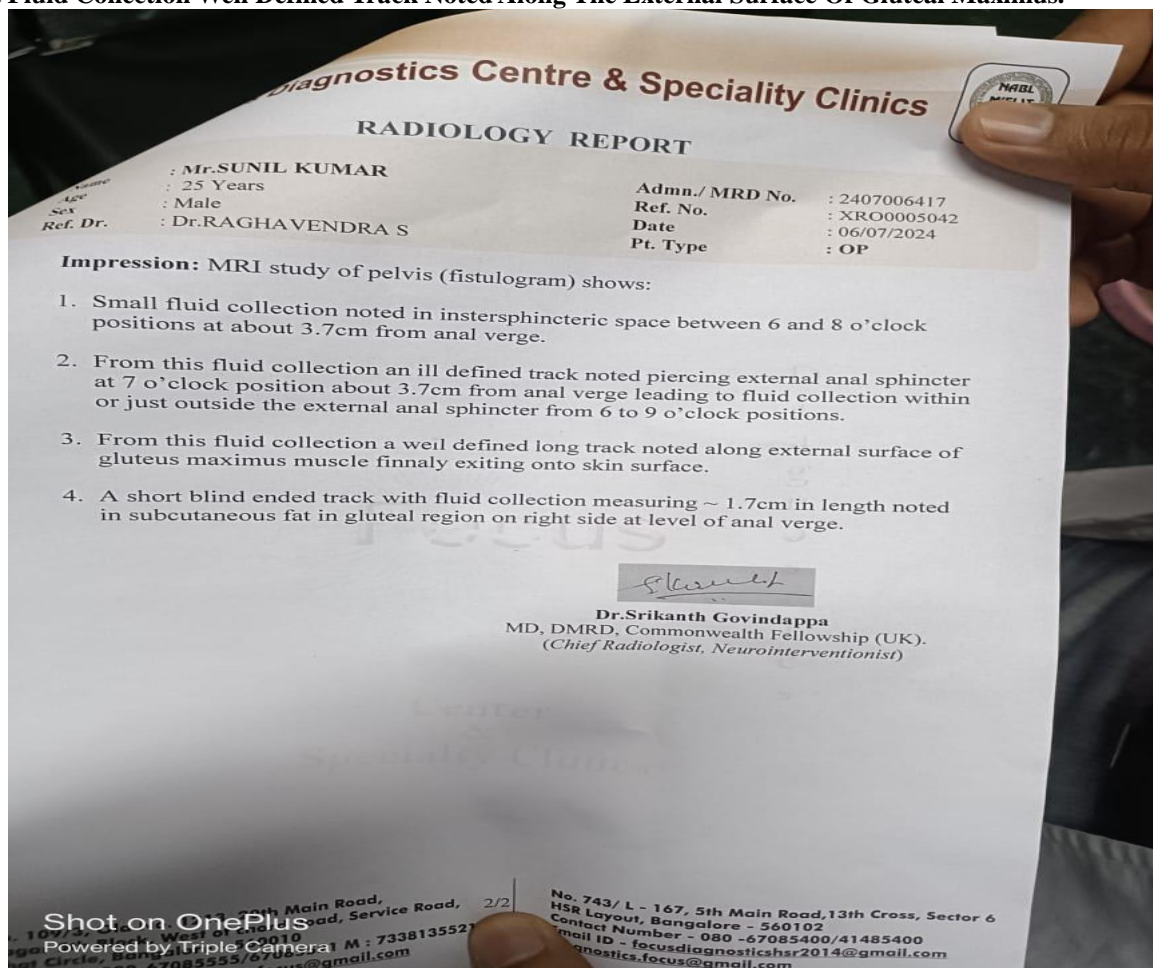
Ushtragreeva Bhagandhara

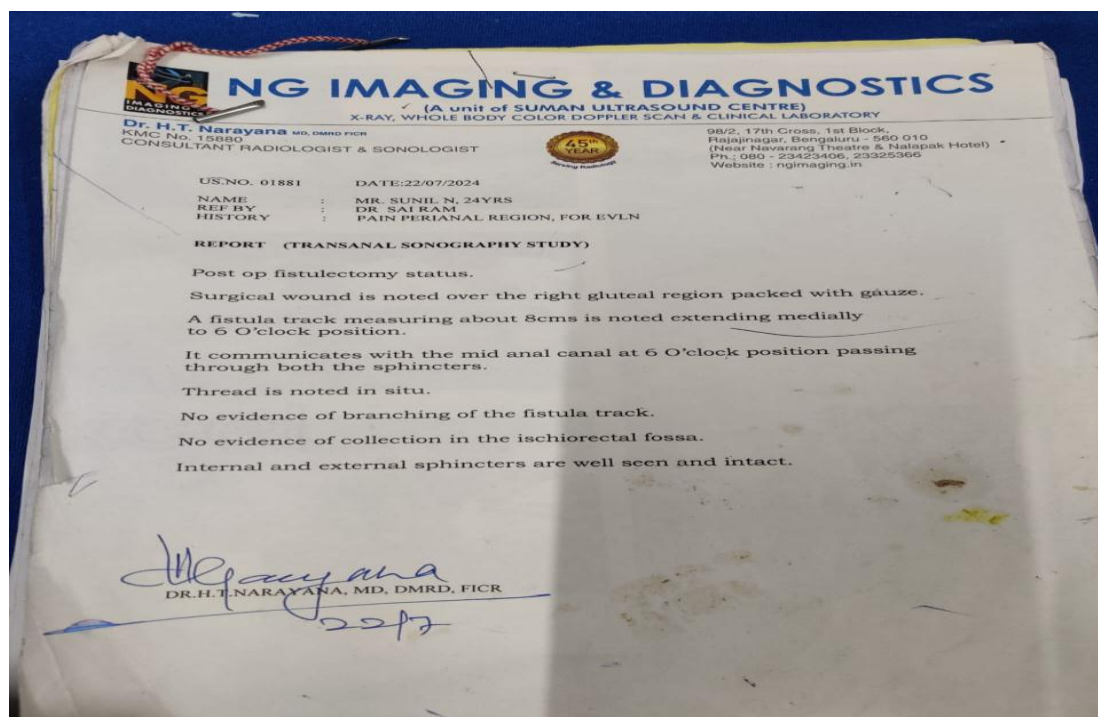
Fistula in ano

INVESTIGATIONS

MRI Fistulogram - 6/7/24

- Small Fluid Collection In Inter Sphincteric Space .3.7 Cm From Anal Verge
- From This Fluid Collection Ill Defined Tract Communicating With Anal Canal At 7 O Clock Position. From That Fluid Collection Well Defined Track Noted Along The External Surface Of Gluteal Maximus.





POORVAKARMA (PRE-OPERATIVE PROCEDURES)

Pre-operative investigations were done

Written consent obtained.

Part preparation was done at the natal area.

Inj. Xylocaine-2%, inj T.T 0.5ml Test dose test dose given and no allergic reactions were observed.

CHIKITSA DONE - Primary Threading



2 external openings in Right perianal region and Right gluteal region

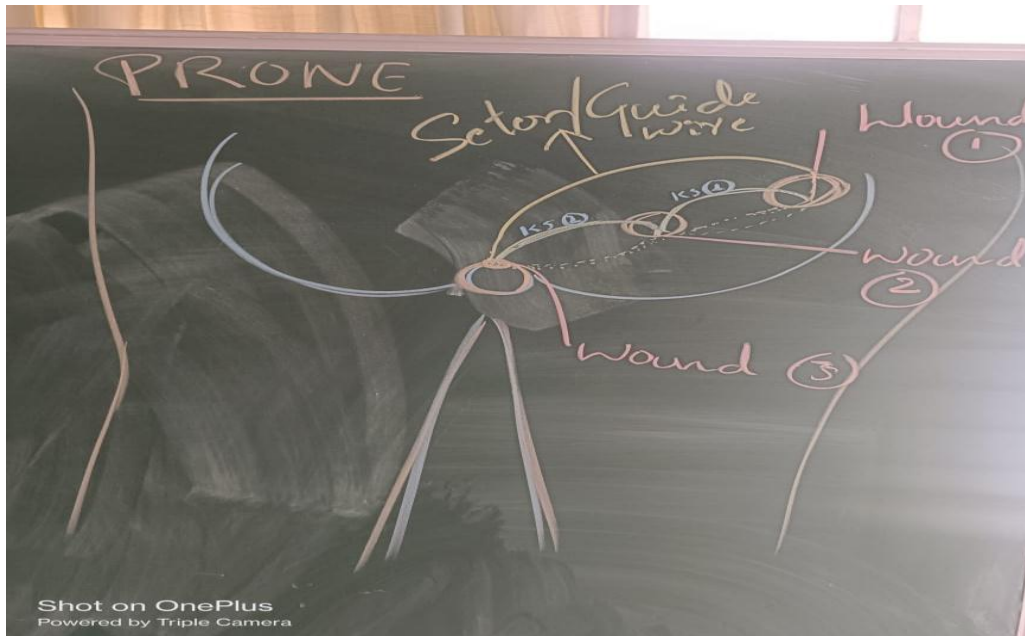
3 Seton application done, post probing to {E1 - E2, E1-I1, E2-I1} widening external opening of the fistula track.

PRADHANA KARMA (OPERATIVE PROCEDURE)

Communication between the openings is confirmed done by injecting betadine from external opening. Then probing was done through the 2nd opening towards the least path of resistance and taken out via internal opening.

For 1st opening tract was extending beyond the second opening, both 1st and 2nd openings were interconnected. Seton /primary threading was passed and tied.

A small incision at the site of both external opening and made it wide opening opening cavity washed with betaine and hydrogen peroxide solution and packing done.



PASCHAT KARMA (POST-OPERATIVE PROCEDURE)

NPO and foot end elevation

IVF -DNS and RL @ 100 ml/hour

Inj pipzo 4.5 gm IV 1-0-1


Inj Pan 40mg IV 1-0-1 Given for 7 days

Inj P CT 1gm IV 1-0-1


Inj Dynaper aq 75 IM sos


Inj Tramadol 1amp in 100 ml NS IV 0-0-1


OBSERVATIONS

Date	Treatment given	Observation
On 10/07/2024 -15/7/2024 C/o pain and burning sensation	Inj pipzo 4.5 gm IV BD Inj metro 100 ml iv BD Inj Pan 40mg IV BD Inj PCT 1gm iv 1BD Inj tramadol in 100 ml NS HS Cap Grab 2-0-2 Avipattikara choorna 0-0-1tsp with warm water	Wound 1 and wound 2 - discharge ++ serous Bleeding + Tenderness ++ Wound -3 Burning sensation + + Tenderness ++ Seton - guide wire + Ks 1- in situ Ks 2 in situ
On 16/07/2024 -20/7/2024	Tab oflox oz 1-0-1 Tab pan 40 1-0-1 Cap grab 2-0-2 Avipattikara choorna 0-0-1 tsp with warm water	

Date	Treatment given	Observation
21/07/2024 -8/8/2024 POD 11 C/o pain and burning sensation at anal canal	UnderASP, Cap Grab 2-0-2 Guggulu tiktaka kashaya 15ml-0-15ml BF Tab Ultracet (sos) Sup zeal sf 10ml BD Dressing with Kshara taila.	Wound 1 and wound 2 - discharge + serous Bleeding + Tenderness + Wound -3 Burning sensation + Tenderness + Seton - guide wire + Ks 1- in situ Ks 2 in situ
Date	Treatment given	Observation
09/08/2024 -3/9/2024 POD 30	UnderASP, Cap Grab 2-0-2 Guggulutiktakakashaya 15ml-0- 15ml BF	Wound 1 and wound 2 - discharge + serous Bleeding + Tenderness +

C/o pain and burning sensation at anal canal	Tab Ultracet sos Dressing with Kshara taila.	Wound -3 Burning sensation + Tenderness + Seton - guide wire + Ks 1- in situ Ks 2 in situ 
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Date	Treatment given	Observation
OPD C/o pain and burning sensation at anal canal	OPD basis Cap Grab 2-0-2 Pushkaramrita 10ml- o-10ml Avipattikara choorna 0-0-1tsp with warm water. Dressing with Kshara taila. 04/09/2024 -05/10/2024	Wound 1- healed wound 2 - discharge + serous Bleeding - Tenderness Wound -3 - healed Seton - guide wire + Ks 2- in situ Ks 1- changed to seton 

Date	Treatment given	Observation
	OPD basis Cap Grab 2-0-2 Avipattikara choorna 0-0-1tsp with warm water. Dressing with Kshara taila.	Wound 1- healed wound 2 - discharge + serous Bleeding - Tenderness - Wound -3 - healed Seton/guide wire - removed Ks 2 -changed to seton 

Pathya <i>Salidhānya, Mudga, Patola, Śigru, Bāla-mūlaka, Tikta varga, Tila taila, Sarṣapa taila, vilepi, Jāṅgala māmsa and Madhu etc.</i>	Apathya <i>Vyāyāma (Excessive exercise) Gurvāhāra (Heavy diet) Maithuna (Coitus), Krodha (Anger)</i>
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	<i>Aśvapṛsta yāna</i> (Riding on vehicles) <i>Ajirṇa</i> (Indigestion) <i>Above mentioned karmās are to be avoided upto one year</i> <i>Sahasa karma</i> (Straining) <i>Asātmya</i> (Irregular regime) <i>Vegavarodha</i> (Suppression of natural urges) <i>Madya</i> (Drinking alcohol)
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DISCUSSION ON TREATMENT

Seton as a Guide Wire for Tract Patency: In complex or multiple fistula tracts, maintaining the pathway is crucial to avoid premature closure. It allows continuous drainage and helps define the path for further intervention. This method minimizes the risk of abscess formation and helps in identifying all communicating branches of the tract. *Kshara Sutra*^[14] in Sphincter-Involved Tracts: When the fistulous tract involves the anal sphincter, direct surgical intervention poses a risk of incontinence. *Kshara Sutra*, applied here due to its gradual and controlled cutting action.^[15] Partial Lay-Open with Sitz Bath Protocol: In tracts with heavy pus discharge, once the drainage reduces, a partial lay-open technique is adopted to open the superficial portion of the tract. This reduces infection load and promotes granulation. Sitz baths for Pain relief, Local hygiene, Faster wound healing by increasing local blood flow.

Probable Mode of Action of *Ksharasutra*

The presence of *Kshara Sutra* within the tract prevents closure at either end, allowing continuous discharge, which aids in drainage and healing. As the *Kshara Sutra* gradually cuts through tissue layer by layer, it facilitates steady drainage of the fistulous tract, promoting faster healing. Acharya Sushruta classifies *Kshara*^[16] under the best treatments (*Shreshthatha*) and attributes it with *Chedana* (excision), *Bhedana* (incision), and *Lekhana* (scraping) properties. It is also considered *Tridoshaghna*, meaning it balances all three *doshas*. The specific action (*Vishesha Kriyavacharana*)^[17] of *Kshara* includes *Dahana* (cauterization), *Pachana* (suppuration), and *Daarana* (tearing apart). These actions are fully manifested through the *Kshara Sutra*.

CONCLUSION

Bhagandara, classified under the *Ashtamahagada*, is primarily characterized by *Daarana* in the *Basti-Guda Pradesha* region and manifests with symptoms such as *Vedana*, *Kandu* and *Puyasrava*.^[18] Most of the subjects in this study exhibited habits such as *Vishamashana* (irregular eating), *Utkatasana* (prolonged squatting), and *Yaana*^[19] (excessive travel), which contribute to disease manifestation. The efficacy of *Kshara Sutra* is due to its alkaline^[20] nature and the mechanical action of tight ligation, which causes a gradual cutting effect.

Ksharasutra practice is holistic approach aided in *Ayurveda*, Article also includes *vrana shodana*, *vrana ropana*^[21] and regular dressing done for fistulous tract healing. The continuous drainage of pus through the tract

enables debridement and promotes the development of healthy granulation tissue, leading to progressive healing. The pharmacological actions^[22] involved are.

Chedana Guna – for excising the tract,
Lekhana Guna – for scraping out unhealthy granulation tissue,
Shoshana Guna – for drying up excessive discharge,
Shodhana Guna – for removing accumulated *Doshas*,
Ropana – for facilitating wound healing. No significant complications such as necrosis, stenosis, or anal incontinence were observed following the use *Kshara Sutra*

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