

AYURVEDIC MANAGEMENT OF HORSESHOE FISTULA-IN-ANO USING YAVA KSHARA SUTRA: A CASE STUDY

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Article Received on
25 April 2025,

Revised on 15 May 2025,
Accepted on 05 June 2025

DOI: 10.20959/wjpr202512-37115



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ABSTRACT

Fistula-in-ano is a common anorectal condition characterized by chronic infection and abscess formation with a persistent discharge. Horseshoe fistula, a complex type involving bilateral extensions from the midline posteriorly, poses significant challenges in management. The prevalence rate of Fistula-in-Ano is 8.6 cases per 100,000 population worldwide, in men the prevalence rate is 12.3 cases per 100,000 population and in women it is 5.6 cases per 100,000 population. *Kshara Sutra*, an Ayurvedic para-surgical technique, has shown promising results, particularly in recurrent, chronic and complex fistulas. This case study underscores the successful Ayurvedic management of a horseshoe fistula (*bhagandhar*) using *Yava Kshara Sutra*, *Panchvalkal* decoction for sitz bath, *Triphala Guggul* and *Gandhak Rasayan* within 6 weeks without recurrence till date.

KEYWORDS: *Bhagandhar*, Fistula-in-ano, Horseshoe fistula, *Yava Kshara Sutra*, Ayurveda, Para-surgical techniques.

INTRODUCTION

Fistula-in-ano is a pathological condition involving an abnormal communication between the anal canal and the perianal skin. It often results from anorectal abscesses forms in the cryptoglandular glands and is characterized by persistent discharge, pain, and discomfort. The horseshoe variant, involving bilateral extensions from a posterior midline internal opening, is particularly challenging due to its complex anatomy and high recurrence rates.^[1]

Conventional surgical interventions, such as fistulotomy and fistulectomy, have been associated with complications like incontinence and recurrence. In contrast, Ayurveda offers a minimally invasive approach through the *Kshara Sutra* technique, which combines chemical cauterization with mechanical pressure to promote healing.^[2,3]

Yava (*Hordeum Vulgare*) *Kshara Sutra*, prepared using the alkaline extract of the *Yava* plant, has been recognized for its efficacy in managing fistula-in-ano. This case study details the application of *Yava Kshara Sutra* in treating a horseshoe fistula, highlighting its therapeutic potential.^[4]

The incidence of a Fistula-in-Ano developing from an anal abscess ranges from 26% to 38%, the prevalence rate of Fistula-in-Ano is 8.6 cases per 100,000 population worldwide, in men the prevalence rate is 12.3 cases per 100,000 population and in women it is 5.6 cases per 100,000 population.^[5]

There are several options for the treatment of fistula-in-ano with their own limitations as mentioned below. Fistulotomy or Fistulectomy, these may cause incontinence. New techniques like Fibrin glue injection, Fistula plug, Endorectal advancement flap, LIFT Technique (ligation of inter-sphincteric fistula tract), VAAFT (Video Assisted Anal fistula treatment), PERFECT (Proximal superficial cauterization, emptying regularly fistula tracts and curettage of tracts). These new techniques are too costly and not affordable to low economy country.^[6] *kshara sutra* procedure is minimal invasive which does not cause recurrence and is used in chronic cases.

AIM

To evaluate the efficacy of *Yava Kshara Sutra* in Horse Shoe Fistula in ano.

METHODOLOGY

Case presentation

A 38-year-old male presented with complaints of persistent pain, swelling, and purulent discharge in the perianal region for six months. The patient reported intermittent fever and discomfort during defecation. He had history of constipation which was relieved with laxatives one year ago.

On examination

Table 1: Shows the findings of local examination.

Inspection	Two external openings at 4 and 8 o'clock No visible pus discharge seen
Palpation	Brawny edema, indurated track felt towards 6 o'clock
Proctoscopy	Internal opening seen at 6 o'clock

Investigation

- **MRI Fistulogram:** Confirmed a trans-sphincteric horseshoe fistula with bilateral extensions.

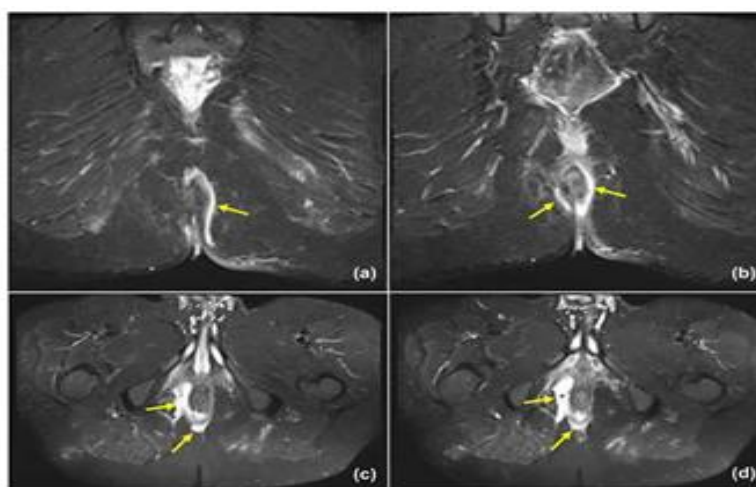


Figure 1: Shows MRI Fistulogram having horse shoe fistula in ano.

The patient had no significant comorbidities and was not on any medications. After obtaining informed consent, the decision was made to proceed with Kshara Sutra therapy. This particular case is found to follow the goodsall's rule as the internal opening is found at 6 O'clock position with external openings at 4 and 8 O'clock position.^[7]

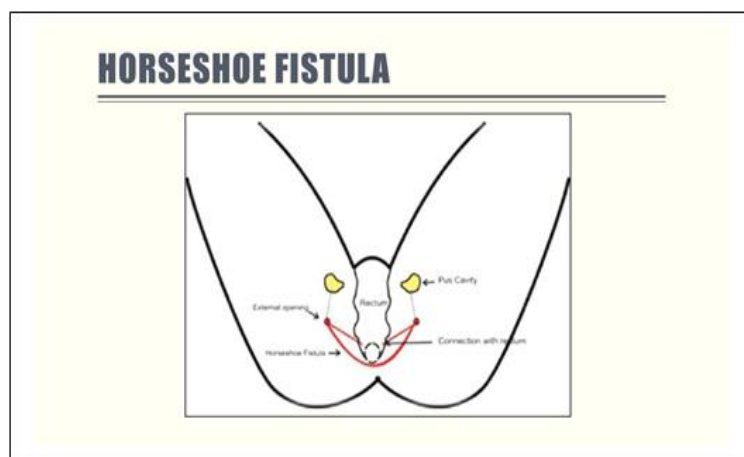


Figure 2: Explains horse shoe fistula in ano as it is seen in this case.

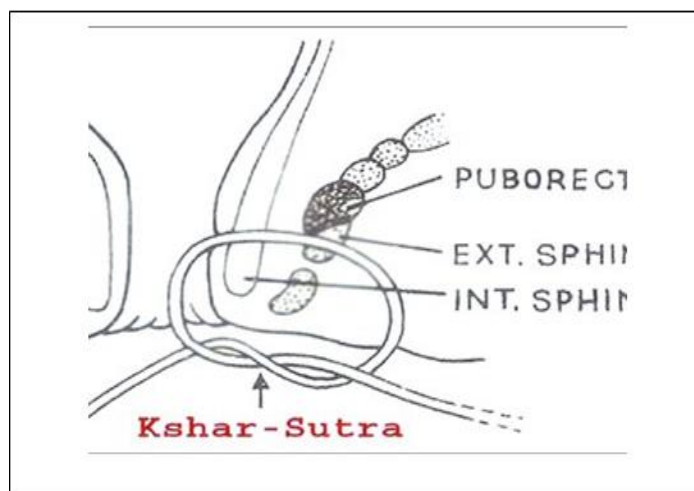


Figure 3: Explains the *Kshara sutra* procedure performed in this case.

MATERIALS AND METHODS

Preparation of yava kshara sutra^[8]

- **Materials:** Surgical linen thread No. 20, *Yava Kshara* (alkaline extract), *Snuhi* (*Euphorbia nerifolia*) latex, and *Haridra* (*Curcuma longa*) powder.
- **Procedure:** The thread was smeared with *Snuhi* latex, coated with *Yava Kshara*, and dusted with *Haridra* powder. This process was repeated 21 times to ensure adequate coating.

Surgical procedure

- Under spinal anesthesia, the patient was placed in the lithotomy position.
- The fistulous tract was probed using a malleable probe to delineate its course.
- The *Yava Kshara* Sutra was threaded through the tract, ensuring it encompassed the entire fistulous pathway.
- The ends of the thread were tied externally, allowing for gradual cutting and healing.

Postoperative care

- ***Kshara sutra* change:** The thread was changed weekly for five weeks.^[9]
- **Medications**
 - *Triphala Guggulu*: 500 mg thrice daily for six weeks.^[10]
 - *Gandhaka Rasayana*: 250 mg twice daily for six weeks.^[11]
- **Local care:** Sitz baths with *Panchavalkala* decoction twice daily for six weeks.^[12]
- **Dietary recommendations:** High-fiber diet to ensure soft stools and prevent straining.^[13]

RESULTS

Over the five-week treatment period:

- **Week 1:** Reduction in pain and discharge; initial signs of tract cutting.
- **Week 2:** Notable decrease in induration; healthy granulation tissue observed.
- **Week 3:** Significant shortening of the tract; minimal discharge.
- **Week 4:** Near-complete healing of the tract; no signs of infection.
- **Week 5:** Complete healing achieved with *Kshara Sutra* was not seen in situ.

The patient was followed up monthly for three months post-treatment. No recurrence or complications were observed during this period.



Figure 4: Shows the post operative status of this case.

DISCUSSION

The management of complex fistulas, especially the horseshoe variant, remains a surgical challenge due to their intricate anatomy and high recurrence rates. Traditional surgical methods, while effective, carry risks of incontinence and require extensive postoperative care. *Kshara sutra* is a minimal invasive technique used in chronic and recurrent fistula cases.^[14,15]

The *kshara sutra* thread is passed through the fistulous tract and tied in a loop. It gradually cuts through the tract while simultaneously healing the tissues behind it. This minimizes the chance of recurrence and maintains the integrity of the anal sphincter. The herbal drugs used have antimicrobial properties, reducing infection and promoting a clean wound environment. The caustic nature of *kshara* helps destroy unhealthy granulation tissue and any residual abscess pockets within the tract. It is especially beneficial in patients unfit for surgery or in recurrent/complex fistulas.^[16]

Table 2: Explains the properties of drugs coated on *kshara sutra*.

Drugs	Latin name	Rasa (Taste)	Guna (Qualities)	Veerya (Potency)	Vipak (Post digestive effect)
<i>Yava</i> ^[17]	Hordeum Vulgare	<i>Kashaya</i> (Astringent), <i>madhura</i> (Sweet)	<i>Mridu</i> (Soft), <i>ruksha</i> (Dry), <i>lekhana</i> (Scraping effect), <i>pichila</i> (slimy), <i>sara</i> (induce movement)	<i>Sheeta</i> (Cold)	<i>Katu</i> (Pungent)
<i>Haridra</i> ^[18]	Curcuma longa	<i>Tikta</i> (Bitter)	<i>Ruksha</i> (Dry)	<i>Ushna</i> (Hot)	<i>Katu</i> (Pungent)
<i>Snuhi</i> ^[19]	Euphorbia neriifolia	<i>Katu</i> (Pungent)	<i>Laghu</i> (Light), <i>Teekshna</i> (Strong)	<i>Ushna</i> (Hot)	<i>Katu</i> (Pungent)

The *Kshara Sutra* technique offers a minimally invasive alternative, combining the mechanical action of the thread with the chemical cauterization properties of the *Kshara*. *Yava Kshara*, derived from *Hordeum vulgare*, possesses potent alkaline properties that aid in debridement and promote healing. *Ksharana* effect due to high pH and presence of carbonates make it caustic which breaks down the abnormal tissue growths as present in fistula-in-ano. *Lekhana* (Scraping Action) helps in scraping and reducing excess *Kapha* and *Meda* (fat). *Shodhana* (Cleansing Action) acts as a bio-cleanser in wounds and sinuses. *Krimighna* (Antimicrobial Action) action makes it fit for external wounds to treat.^[20]

Haridra Kshara Sutra acts through a combination of chemical cauterization, disinfection, and promotion of wound healing—making it a highly effective and minimally invasive treatment for fistula-in-ano. It has *krimighna* (anti microbial)^[21] and *shothahara* (anti-inflammatory)^[22] properties which is effective against a broad range of bacteria, fungi, and viruses, preventing secondary infection in wounds and reduces inflammation by regulating COX-2, TNF- α , IL-1, and NF- κ B pathways.

Pañcavalkala kvātha was used for sitz bath and played important role in maintaining local hygiene, *śodhana* (cleaning) as well as *ropana* (healing) of the fistulous wound. The wound was cleaned with freshly prepared *Pañcavalkala kvātha* twice daily. The *Pañcavalkala kvāth* has soothing and antimicrobial activities.^[23] A previous study in wound healing with *Pañcavalkala* cream also showed encouraging results.^[24] This kvath potentiates the healing process by preventing infection at the wound site. Though the peri-anal area is more

prone to get infected by local sweating, hair follicle infection and faeces. In this case wound was healed without any complications due to the *Pañcavalkala* used in different forms such as sitz bath (with diluted *Pañcavalkala* decoction) and cleaning (using concentrated *Pañcavalkala* decoction).^[12]

The weekly change of the *Kshara Sutra* ensures continuous chemical action, promoting gradual cutting and healing of the tract.

The addition of internal medications like *Triphala Guggulu* and *Gandhaka Rasayana* supports systemic detoxification and enhances wound healing.^[10,11]

CONCLUSION

This case study underscores the efficacy of *Yava Kshara Sutra* in managing complex horseshoe fistula-in-ano. The treatment was well-tolerated, cost-effective, and resulted in complete healing without recurrence. Ayurvedic para-surgical techniques like *Kshara Sutra* offer promising alternatives to conventional surgical interventions, especially in resource-limited settings.

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