



KSHARA SUTRA IN THE MANAGEMENT OF INTERSPHINCTERIC BHAGANDARA (PERIANAL FISTULA-IN-ANO): A CASE REPORT

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ABSTRACT

Bhagandara (fistula-in-ano) is regarded by Acharya Sushruta as difficult to manage, owing to its chronic, recurrent, discharging nature. *Kshara Sutra*, a medicated thread prepared with *Snuhi Ksheera*, *Apamarga Kshara* and *Haridra churna*, combines *Kshara Karma* (chemical cauterisation), *Ksharana* (debridement) and *Chedana* (slow mechanical cutting), and remains a validated surgical modality for fistula management. In this case study, we discuss a 25-year-old male with recurrent mucopurulent perianal discharge, diagnosed by fistulogram imaging as an active intersphincteric left perianal fistula (Grade 1, St James's University Hospital classification) with a tract measuring 4.4 mm in calibre and 38 mm in length. He was managed with a *Kshara Sutra* standardised by the Central Council for Research in Ayurvedic Sciences (CCRAS) and prepared over Barbour's linen thread No. 20, changed weekly under *Triphala Kwatha Parisheka* and oral Ayurvedic medication (*Saptavimshati Guggulu*, *Gandhak Rasayan*, *Arogyavardhini Vati* and *Abhayarishta*). Complete tract transection was achieved over eight ligations, at an average Unit Cutting Time (UCT) of approximately 14.7 days/cm (4.75 mm per week), and the wound healed fully without recurrence or incontinence at three-month follow-up. This case reaffirms *Kshara Sutra* as a safe, sphincter-preserving, cost-effective alternative for intersphincteric fistula-in-ano.

KEYWORDS: Bhagandara, Kshara Sutra, Fistula-in-ano, Ayurveda, Shalya Tantra.

INTRODUCTION

Bhagandara, described in Ayurvedic classics as a discharging perianal sinus arising in the tissue between the Guda (anus) and Basti Pradesha (perineal region), has been regarded by Acharya Sushruta as a condition demanding early and decisive surgical intervention on account of its tendency toward chronicity, sepsis and secondary complications.^[1] Acharya Sushruta classified Bhagandara into five varieties on the basis of Doshic predominance and course of the tract, namely Shataponaka, Ushtragriva, Parisravi, Shambukavarta and Unmargi, of which the Parisravi type-characterised by a continuously discharging sinus-corresponds closely to the low, chronically draining fistula commonly encountered in clinical practice.^[1]

Among the Shastra Karma (surgical procedures) described for Bhagandara, the use of a medicated ligature passed through the fistulous tract finds early mention in the Sushruta Samhita, where Eshana (probing) followed by thread ligation is advised for tracts unsuitable for direct incision.^[2] This principle was subsequently elaborated by Acharya Chakrapani Datta in the Chakradatta, which describes the preparation of the Kshara Sutra by repeated coating of a linen thread with the latex of Snuhi (*Euphorbia neriifolia*), the alkaline ash of Apamarga (*Achyranthes aspera*) and Haridra (*Curcuma longa*) churna, built up over multiple applications to achieve a thread capable of simultaneous chemical debridement and gradual mechanical division of tissue.^[3] The Ashtanga Hridaya likewise recognises Bhagandara among the conditions warranting prompt

surgical attention, reinforcing the classical consensus on early intervention.^[4]

In contemporary practice, Kshara Sutra therapy has been validated through multicentric clinical trials as an effective, low-recurrence, sphincter-preserving alternative to conventional fistulotomy and fistulectomy, particularly for intersphincteric and trans-sphincteric tracts where preservation of continence is of paramount concern.^[5] Magnetic resonance fistulography, and classification systems such as that proposed by the St James's University Hospital, have further refined pre-procedural anatomical assessment of such tracts, allowing more precise correlation between classical Nidana and modern imaging.^[6] We report a case of an intersphincteric perianal fistula managed successfully with sequential Kshara Sutra ligation, with particular attention to the rate of tract cutting achieved across each sitting.

The linen thread used for *Kshara Sutra* preparation in the present case was Barbour's linen thread No. 20, coated with the classical medicaments in a manner standardised by the Central Council for Research in Ayurvedic Sciences (CCRAS) to ensure batch-to-batch consistency of the thread's chemical and mechanical cutting properties. The rate of tract division was expressed as the Unit Cutting Time (UCT)-the number of days required to cut through one centimetre of tissue, calculated as the total treatment duration divided by the initial tract length-a parameter widely used in the clinical literature on *Kshara Sutra* therapy to allow comparison of cutting efficiency across studies.

MATERIALS AND METHODS

Case Presentation

A 25-year-old male presented to the outpatient department (OPD) of the Department of Shalya Tantra, Jammu Institute of Ayurveda and Research (JIAR) Hospital, Nardini, Jammu, with a chief complaint of intermittent purulent discharge from the perianal region of several months' duration associated with mild local discomfort and soiling of undergarments, without a preceding history of perianal abscess drainage or fever. On local examination, a single external opening was identified in the left posterior perianal region with serosanguinous discharge on gentle compression; a probe passed through the tract confirmed a soft, non-branching sinus. The patient was referred for magnetic resonance imaging (MRI) fistulography for anatomical delineation prior to definitive management. The procedure was carried out in accordance with the standard institutional protocol for Kshara Sutra therapy followed in the Department of Shalya Tantra, and written informed consent was obtained from the patient prior to the procedure and for the use of his clinical data and photographs for academic and publication purposes.

Investigations

MRI fistulogram revealed a thin, T2/STIR hyperintense fistulous tract measuring approximately 4.4 mm in calibre and 38 mm in length in the left posterior perianal region. The tract was noted to merge with the internal sphincter at the 3 o'clock position and to course posteroinferiorly within the intersphincteric plane before opening subcutaneously at the 4 o'clock position, with mild associated inflammatory change in the adjacent subcutaneous fat. The internal opening was located approximately 9.4 mm from the anal verge, with no secondary ramification, no localised collection, and an intact levator ani and anorectal junction. On this basis, the tract was classified as an active intersphincteric left perianal fistula, Grade 1 according to the St James's University Hospital MRI-based classification (Figure 1a, 1b), corresponding to the Parisravi type of Bhagandara in classical parlance (Figure 2).

Routine pre-procedure laboratory work-up-including haemoglobin (Hb), bleeding time (BT), clotting time (CT), total leukocyte count (TLC), fasting blood glucose, and viral markers (HIV, HBsAg, HCV)-was carried out as per departmental protocol. All parameters were within normal limits (Hb 14.2 g/dL, BT 2 minutes 30 seconds by Duke's method, CT 5 minutes by the capillary tube method, TLC 7,800 cells/mm³, fasting blood glucose 88 mg/dL, HIV/HBsAg/HCV non-reactive), and the patient was cleared for the procedure. Routine chest radiography (X-ray chest, PA view) was not considered necessary in view of the absence of systemic symptoms.

Based on clinical probing and MRI fistulography, the tract was categorised as a low, intersphincteric fistula-in-ano with a single internal and external opening and no secondary ramification, corresponding to the *Parisravi* variety of *Bhagandara* in the classical (Sushruta) classification, as noted above.

Assessment Criteria

Objective assessment of the rate of tract cutting was made using the Unit Cutting Time (UCT), calculated as total treatment duration (days) divided by the initial tract length (cm) (Table 1). Subjective symptoms-pain, burning sensation, discharge, itching and local inflammation-were graded at baseline and at each sitting using a standard four-point severity scale adapted from Madson and Peter: 0 = no symptoms; + = mild symptoms; ++ = moderate symptoms; +++ = severe symptoms; ++++ = very severe symptoms with marked disturbance of the patient's daily routine (Table 2).

Procedure

Under aseptic precautions and local anaesthesia, the fistulous tract was probed with a malleable *Eshani*, and a *Kshara Sutra* standardised by the Central Council for Research in Ayurvedic Sciences (CCRAS) and prepared with successive layers of Snuhi (*Euphorbia neriifolia*) Ksheera, Apamarga (*Achyranthes aspera*) Kshara and Haridra (*Curcuma longa*) churna over Barbour's linen

thread No. 20-was railroaded through the tract from the external to the internal opening and secured with a loose ligature (Figure 3). The thread was replaced with a fresh *Kshara Sutra* at weekly (7-day) intervals; at each sitting, the previous thread was noted to have migrated distally along the tract as chemical and mechanical cutting progressed, and the tightness of the new ligature was adjusted to maintain steady cutting pressure. Eight sequential ligations were performed in this manner, individually documented from the first through the eighth sitting (Figures 4-11), with the sitting-wise clinical observations, estimated progress of tract cutting and the corresponding Unit Cutting Time (UCT) summarised in Table 1. Adjunctive management

included daily *Triphala Kwatha Parisheka* (lukewarm decoction irrigation/sitz bath) for local antiseptic and wound hygiene, along with local application of *Jatyadi Taila* over the wound. Oral Ayurvedic medication was administered concurrently to support *Vrana Ropana* (wound healing) and to minimise local inflammation throughout the treatment course, comprising *Saptavinshati Guggul* 2 tablets twice daily (BD) after food, *Gandhak Rasayan* 2 tablets BD after food, *Arogyavardhini Vati* 2 tablets BD, and *Abhayarishta* 3 teaspoonful (15 ml) BD with an equal quantity of water as *Anupana*.

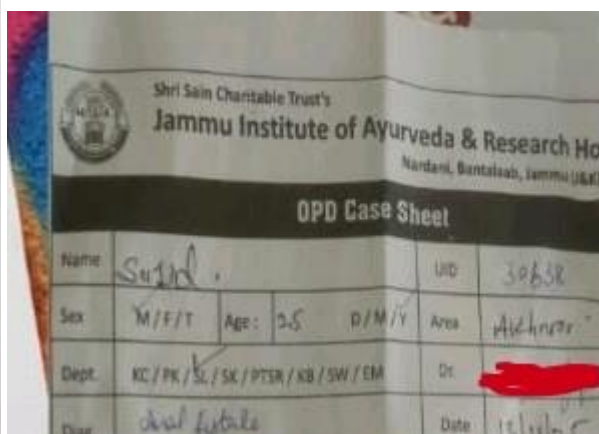
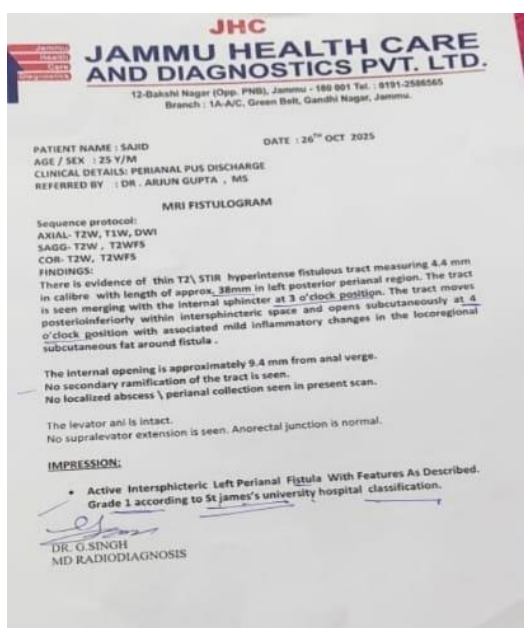


Figure 1: (a) MRI fistulogram report confirming an active intersphincteric left perianal fistula, Grade 1 (St James's classification); (b) OPD case sheet at initial presentation.

Schematic representation of the intersphincteric left perianal fistula (based on MRI fistulogram findings)

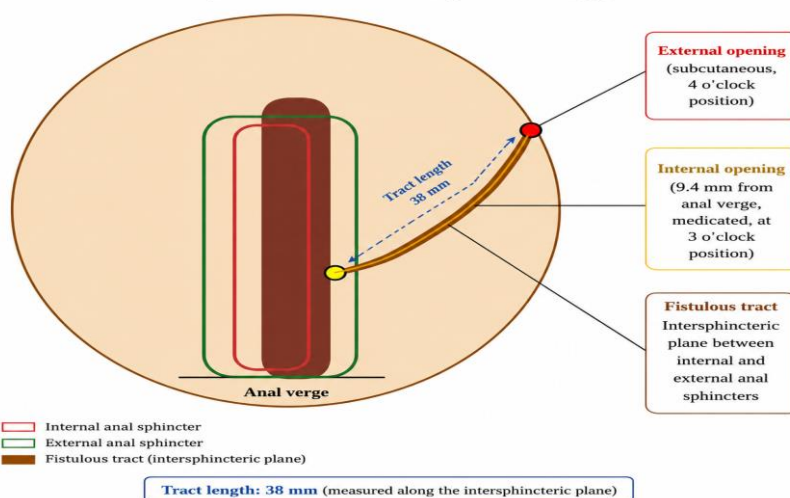


Figure 2: Schematic representation of the intersphincteric left perianal fistula, illustrating the tract course, internal and external openings, sphincter relations and *Kshara Sutra* placement, constructed from the MRI fistulogram findings.



Figure 3: Day 1 - intraoperative appearance immediately after railroading and securing the fistulous tract.



Figure 4: First Kshara Sutra ligation (thread change at 7 days), showing the fresh medicated thread in situ.



Figure 5: Second Kshara Sutra ligation with early tract-cutting and granulation tissue evident along the thread track.



Figure 6: Third Kshara Sutra ligation, showing progressive migration of the thread and healthy granulation tissue.



Figure 7: Fourth Kshara Sutra ligation, with continued narrowing of the residual tract.



Figure 8: Fifth Kshara Sutra ligation, showing further reduction of the open tract as cutting progresses.



Figure 9: Sixth Kshara Sutra ligation, with active bleeding noted along the cutting edge of the thread.



Figure 11: Eighth (final) Kshara Sutra ligation, at which complete transection of the fistulous tract was achieved.



Figure 10: Seventh Kshara Sutra ligation, showing a markedly narrowed residual tract.



Figure 12: Completely healed perianal wound at follow-up (11 February 2026), approximately three months after initiation of therapy.

Table 1: Sequential Kshara Sutra ligation schedule and tract-cutting progress (Unit Cutting Time, UCT)

Sitting No.	Date	Cumulative days	Cumulative tract cut (mm)	Residual tract (mm)	Cumulative UCT (days/cm)
Baseline	13 Nov 2025	-	-	-	-
1st	20 Nov 2025	7	4.75	33.25	14.7
2nd	27 Nov 2025	14	9.50	28.50	14.7
3rd	04 Dec 2025	21	14.25	23.75	14.7
4th	11 Dec 2025	28	19.00	19.00	14.7
5th	18 Dec 2025	35	23.75	14.25	14.7
6th	25 Dec 2025	42	28.50	9.50	14.7
7th	01 Jan 2026	49	33.25	4.75	14.7
8th (final)	08 Jan 2026	56	38.00	0.00	14.7
Follow-up	11 Feb 2026	-	-	-	-

Cumulative tract cut, residual tract and UCT figures from the first sitting onward are estimated under the assumption of an approximately uniform weekly cutting

rate, derived from the total MRI-confirmed tract length (38 mm) over the eight confirmed sittings; exact tract length was not re-measured at each individual sitting (see

Results and Discussion, Figure 13). UCT = total elapsed days divided by tract length cut to date, in cm.

Table 2: Subjective parameter grading across sequential sittings (Madson and Peter scale, 0-4)

Sitting No.	Date	Pain	Burning sensation	Discharge	Itching	Inflammation
Baseline	13 Nov 2025	+	-	++	-	+
1st	20 Nov 2025	—	—	—	—	—
2nd	27 Nov 2025	—	—	—	—	—
3rd	04 Dec 2025	—	—	—	—	—
4th	11 Dec 2025	—	—	—	—	—
5th	18 Dec 2025	—	—	—	—	—
6th	25 Dec 2025	—	—	—	—	—
7th	01 Jan 2026	—	—	—	—	—
8th (final)	08 Jan 2026	—	—	—	—	—
Follow-up	11 Feb 2026	0	0	0	0	0

Grading: 0 = no symptoms; + = mild symptoms; ++ = moderate symptoms; +++ = severe symptoms; ++++ = very severe symptoms with marked disturbance of daily routine. Baseline grades reflect the presenting clinical picture described under Case Presentation. Grades for the individual sittings (marked —) should be transcribed by the author from the original OPD case sheet/proforma before submission; grading at final follow-up reflects complete resolution as described in Results and Discussion.

RESULTS AND DISCUSSION

Complete transection of the 38 mm intersphincteric tract was achieved by the eighth Kshara Sutra ligation, performed at a cumulative interval of approximately eight weeks (56 days) from the initial thread placement. Assuming an approximately uniform weekly cutting rate across the eight confirmed sittings, this corresponds to an average tract-cutting rate of 4.75 mm per week (0.68 mm

per day), i.e. a Unit Cutting Time (UCT) of approximately 14.7 days/cm (Table 1), consistent with the gradual cutting action classically attributed to the Kshara Sutra and comparable to rates reported in the wider clinical literature on medicated-thread ligation for fistula-in-ano (Figure 13, Table 3).^[5] Following complete cutting of the tract, the wound was allowed to heal by secondary intention under continued Triphala Kwatha Parisheka, with complete epithelialisation and closure of the wound confirmed on follow-up examination on 11 February 2026 (Figure 12), roughly thirteen weeks after initiation of treatment. No episode of faecal or flatal incontinence, recurrence of discharge, or need for further intervention was noted during this period. Subjective symptom grades for pain, burning sensation, discharge, itching and inflammation, recorded at baseline and at each sitting (Table 2), showed a progressive reduction over the treatment course, reaching a grade of 0 across all parameters at the three-month follow-up.

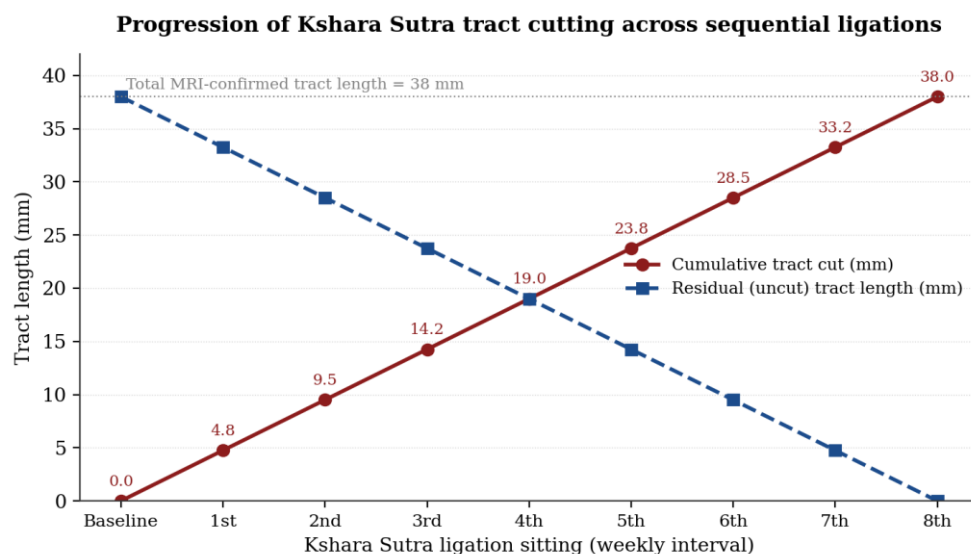


Figure 13: Progression of Kshara Sutra tract cutting across sequential ligations. Cumulative tract cut and residual (uncut) tract length are plotted assuming a uniform weekly cutting rate derived from the total MRI-confirmed tract length (38 mm) over the eight confirmed weekly sittings; exact tract length was not re-measured at each individual sitting.

Table 3: Summary of Kshara Sutra therapy parameters in the present case.

Parameter	Value
Tract calibre (MRI fistulogram)	4.4 mm
Total tract length (MRI fistulogram)	38 mm
Internal opening from anal verge	9.4 mm
St James's University Hospital grade	Grade 1 (intersphincteric)
Number of Kshara Sutra ligations	8
Interval between ligations	7 days (weekly)
Total sittings-to-complete-cutting duration	8 weeks (56 days)
Average tract-cutting rate	4.75 mm/week (0.68 mm/day)
Unit Cutting Time (UCT)	Approx. 14.7 days/cm (56 days / 3.8 cm)
Total duration to complete wound healing	~13 weeks (90 days)
Post-treatment continence / recurrence	Preserved / none noted

The satisfactory outcome in this case may be attributed to the dual chemical-mechanical action of the Kshara Sutra: the Apamarga Kshara component provides a caustic, proteolytic and mildly antimicrobial effect that debrides the tract wall (Ksharana), while the tension of the ligature produces slow, controlled division of tissue (Chedana) that permits simultaneous granulation and fibrosis of the wound bed behind the advancing thread. This gradual mode of cutting is considered responsible for the comparatively low recurrence and preserved sphincter competence associated with Kshara Sutra therapy relative to single-stage fistulotomy, in which abrupt division of sphincter fibres carries a recognised risk of incontinence, particularly in intersphincteric and trans-sphincteric tracts.^[5] The weekly interval adopted in this case allowed adequate time for both cutting and interval healing at each sitting, and the adjunctive Triphala Kwatha Parisheka is likely to have contributed to local antisepsis and to the Vrana Ropana (wound healing) process described in classical texts.^[3]

This case also illustrates the value of correlating classical Ayurvedic Nidana with contemporary cross-sectional imaging: fistulography permitted precise pre-procedural mapping of the tract length, calibre and its relationship to the sphincter complex, information that is not readily obtainable by clinical probing alone and that allowed the course of Kshara Sutra therapy to be planned and monitored with greater confidence.^[6] The findings of this case are consistent with the existing body of clinical evidence supporting Kshara Sutra as an effective and minimally invasive modality for the management of fistula-in-ano.^[5] As this report describes a single patient, the tract-cutting rate and healing course presented here (Figure 13, Table 3) should be interpreted as descriptive of this case rather than as a population-level estimate; inferential statistical comparison was neither applicable nor attempted.

CONCLUSION

This case demonstrates that sequential Kshara Sutra ligation, performed at weekly intervals and supported by Triphala Kwatha Parisheka, local Jatyadi Taila application and oral Ayurvedic medication (Saptavinshati Guggul, Gandhak Rasayan, Arogyavardhini Vati and Abhayarishta), can achieve

complete and uneventful healing of an intersphincteric perianal fistula, cutting a 38 mm tract over eight sittings at an average rate of approximately 4.75 mm per week (Unit Cutting Time $\approx$ 14.7 days/cm) without compromise of continence. The case reaffirms the continued clinical relevance of the classical descriptions of Bhagandara Chikitsa found in the Sushruta Samhita and Chakradatta, and supports Kshara Sutra as a safe, effective, sphincter-preserving and cost-effective option for the management of intersphincteric fistula-in-ano.

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CONFLICT OF INTEREST

The authors declare that they have no conflict of interest, financial or otherwise, in relation to this case report.

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