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Long-term Recurrence-Free Outcome with IFTAK in an Inter-Sphincteric Fistula with Blind Branch: A Case Report

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ABSTRACT:

Long-term follow-up is essential to assess the recurrence of fistula following any therapeutic or surgical intervention. Anal fistula with blind extensions poses diagnostic and therapeutic challenges, with higher recurrence risk if inadequately managed. Interception of fistulous tract with *Ksharasutra* (IFTAK) offers a sphincter-preserving alternative with potentially faster healing. A 21-year-old male presented with a 4-month history of intermittent purulent discharge and discomfort. Examination and trans-rectal ultrasonography (TRUS) confirmed a low inter-sphincteric fistula with a blind branch. The patient underwent IFTAK, with *Ksharasutra* placed in the proximal tract and *Ksharavarti* in the distal tract. Postoperative care included oral administration of tab. *Kanchanara Guggulu, Varunadi Kashaya,* lukewarm sitz-bath with *Panchavalkal kwatha* &wound care with *Triphala Kwatha* and *Jatyadi Taila* till complete healing. The distal tract healed by day 25, complete wound healing occurred by day 58, continence was preserved, and no recurrence occurred during 20-month follow-up. No adverse drug reactions were noted. IFTAK provided effective, sphincter-preserving management with durable long-term results in an inter-sphincteric fistula with a blind branch.

KEYWORDS: Anal fistula, *Bhagandara,* Fistula-in-ano, IFTAK, *Ksharasutra*, Long-term follow up, Ayurveda, Case report.

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INTRODUCTION:

Long term follow up of a procedure is essential to evaluate the durability and overall outcomes of any surgical procedure. Absence of recurrence over an extended period significantly enhances the surgeon's confidence in the effectiveness of that technique. A chronic abnormal tract from the anorectal lumen to an external opening on the perianal skin is termed as anal fistula.[1] The prevalence is 0.01% with a male to female ratio of 2:1.[2] Inter-sphincteric fistula is the most common type (45%).[1] This variant if associated with a blind tract, can create diagnostic difficulties and increase the chance of recurrence if not properly addressed.

Various treatment modalities like fistulectomy, fistulotomy, Ligation of inter-sphincteric fistulous tract (LIFT) etc. can be employed in anal fistula management. Prolonged duration of healing, cosmetic disfigurement resulting from large wounds and high recurrence rate are often encountered as the disadvantages of these procedures.[3] This pave the way to explore more durable and effective treatment options capable of overcoming those limitations.

Ayurveda consider anal fistula as *Bhagandara* which is include in *Ashtamahagada* (eight troublesome diseases).[4] Though conventional *Ksharasutra* is a proven treatment option for anal fistula with good success rate, it often takes longer duration of healing and the repeated hospital visits causes financial and psychological stress to the patients. To overcome these limitations many modifications of *Ksharasutra* therapy have been evolved such as interception of fistulous tract with application of *Ksharasutra* (IFTAK), minimally invasive *Ksharsutra* therapy (MIKST) etc. on clinical experience of expert surgeons. Sphincter preserving methods such as IFTAK will be a better choice especially in younger patients. Additionally, it will result in a smaller wound and comparatively a lesser duration for complete healing.[5] Though many works are available that showcasing the successful outcome of IFTAK procedure, very few research articles are available that discusses the long term follow up outcome. Here we are presenting a 20-months follow up results of an inter-sphincteric anal fistula associated with a blind branch in a young male patient which was successfully managed by IFTAK procedure.

CASE REPORT

A 21-year-old male non diabetic, normotensive patient, mechanic by occupation with a body mass index of 24.5 kg/m^2 presented with a four-month history of intermittent purulent discharge and discomfort in the right perianal region. Symptoms were aggravated during defecation, accompanied by occasional throbbing pain and perianal itching. There was no history of associated fever or weight loss. There were no relevant familial, medical and surgical history. For these complaints he visited *Shalya Tantra* outpatient department.

Clinical examinations

Patient was haemodynamically stable. General and systemic examination findings were within normal limits. Bowel was regular with occasional hard stools, vitals were stable. Local examination of perianal area showed an external opening at 7'o clock position approximately 6cm away from the anal verge (Figure 1A). On palpation, induration felt around the external opening. A cord-like structure was felt from the external opening medially towards the anal verge at 6'o clock. No tenderness felt.

Temperature was normal. On digital rectal examination (DRE), tenderness and dimpling felt at 6'o clock position at the level of dentate line. An extension of tract was felt towards 5'o clock position. Sphincter tone was normal, temperature was normal. Upon withdrawing the finger, mild pus staining was observed. Trans-rectal ultra sonography (TRUS) showed 6cm long curvilinear branching fistula in the right perianal region with an external opening at 7'o clock position, one internal opening at 6'o clock position. 10 mm long blind branch is seen at the medial end of the track leading to 5'o clock and maximum depth of the fistula is 6 mm; these findings suggest possibility of a low type inter- sphincteric fistula-in-ano (Figure 1B, 1C). Routine pre-operative investigations were within the normal limit. Magnetic resonance imaging, which is considered as the gold standard for diagnosing anal fistula was not performed in this case as it was not affordable to the patient and also TRUS give the significant and accurate information about the branches number of tracts and their extension.[6] The differential diagnosis are enlisted in table -1. Based on the clinical examination and TRUS report it was diagnosed as inter- sphincteric fistula-in-ano with blind extension, and was planned for interception of fistulous tract with application of *Ksharasuta* (IFTAK) procedure.

THERAPEUTIC INTERVENTION:

After obtaining the written informed consent routine pre-operative protocol was followed. After giving saddle block patient was kept in lithotomy position. Operative site was painted with betadine 10% solution followed by spirit. Draping was done with sterile cutsheet. Sims speculum was inserted into the anal canal. A mixture of betadine and hydrogen peroxide solution was pushed through the external opening and it was came out through the internal opening at 6'o clock, confirming the patency of tract. A malleable probe lubricated with xylocaine jelly was gently pushed through the external opening at 7' o clock position and it took a curvilinear path and reaches up to the lower border of external sphincter at 6' o clock. Keeping the probe in-situ another probe was inserted from the internal opening at 6' o clock. both the probes met at the outer border of external sphincter at 6'o clock, where a vertical incision (window) was made and the tract was intercepted into proximal and distal tracts. The window was widened enough to facilitate adequate drainage. External opening was excised with surgical blade No. 15. The distal tract was thoroughly scooped then a piece of *Apamarga Kshara Sutra* was made in the form of a varti and placed in it. Barbour linen thread No. 20 was ligated to the proximal tract. (Figure 2A) Complete haemostasis was achieved. Wounds were packed with gauze soaked in betadine and hydrogen peroxide solution.

Time line of events: It is mentioned in table - 2.

FOLLOW UP AND OUTCOME

From the first operative day (POD) regular wound care was given with *Triphala Kwatha* and *Jatyadi Taila* (Table 2). Routine post-operative antibiotic regimen was followed. Then patient was shifted to Ayurvedic medicines (Table 3). *Ksharasutra* in the form of *Varti* was removed from the distal tract on the first post-operative day. Plain thread was replaced with *Apamarga Ksharasutra* on the 7th POD and changed at weekly interval by rail road technique.[7] Regular cleaning of the distal tract done with *Triphala Kwatha* for

the initial 7 days (Figure 2B). Lukewarm sitz-bath with *Panchavalkal kwatha* was advised. Early ambulation was advised from the first POD itself. No further dressing was done in this wound as there was good wound contraction and no pus discharge (Figure 2C). Complete healing of the distal tract was achieved in 25th POD (Figure 2D). Pus discharge from the window was reduced and completely absent by 45th POD (Table 4). Then cut through was done and complete healing was achieved by 59th POD (Figure 2E). Continence was maintained. Adherence to the medication was monitored daily through drug intake and dressing logs during hospital visits. Tolerability was assessed from patient reported symptoms and daily observation for adverse events. No adverse reactions were noted and all Ayurvedic medicines were well tolerated. A follow up of 20 months showed no recurrence (Figure 2F).

Table-1: Differential diagnosis

Condition	Why Considered in This Case	Why Excluded in This Case
Perianal Abscess	Intermittent purulent discharge and discomfort suggested the possibility of a residual or resolving abscess.	Local examination revealed a tract communicating with the anal canal, which is characteristic of a fistula, not an abscess. No fluctuation, acute tenderness, or localized warmth was present.
Infected Epidermal Inclusion Cyst	Considered due to chronic discharge and a sinus-like external opening in the perianal region.	Typically presents as a well-circumscribed, mobile cyst with keratinous (cheesy) material and no tract leading to the anal canal.
Pilonidal Sinus	Included because pilonidal disease may present with a discharging sinus around the natal cleft.	The external opening in this case was at the 7 o'clock position, 6 cm from the anal verge, not in the midline natal cleft, and the tract communicated with the anal canal, which pilonidal sinus never has.
Hidradenitis Suppurativa	Recurrent discharge could mimic hidradenitis, especially in apocrine gland bearing regions.	This case had a single external opening with a defined tract; hidradenitis typically presents with multiple, scattered nodules, abscesses, and interconnecting sinuses unrelated to the anal canal.
Anal Fistula (Fistula-in-ano)	Intermittent purulent discharge, presence of an external opening, a palpable cord-like tract, dimpling at dentate line on DRE, and TRUS demonstrating an inter-sphincteric tract strongly favored this diagnosis.	Not excluded; final diagnosis confirmed as low inter-sphincteric fistula-in-ano with a blind extension based on clinical findings and TRUS.

Table 2: Timeline of events

Day	Events
06/01/2024	First visit to Shalya Tantra OPD Diagnosed as Fistula-in-ano Hospitalized for operative procedure

	Pre-anaesthetic checkup done
07/01/2024	Interception of fistulous tract with application of *Ksharasuta* (IFTAK) procedure done.
From 08/01/2024 (first post operative day (POD)) onwards	Regular wound cleaning with *Triphala Kwatha* and dressing done with *Jatyadi Taila.*
7th POD	Barbour linen thread was replaced with *Apamarga Ksharasutra* (proximal tract) and changed at weekly interval.
44th POD	Cut through of the tract was achieved
58th day	Complete healing of the wound

Table 3: Medications given

Day	Intervention
07/01/2024 (Day of operation)	1. Inj. Cefotaxime 1000mg + Sulbactum 500mg intravenously, 12 hourly for 3 days 2. Inj. Ranitidine 2 ml intravenously, 12 hourly for 3 days 3. Inj. Diclofenac Sodium 75 mg Intramuscularly (SOS)
4th POD	Stopped 1,2,3 4. Tab Cefixime 200 mg, 1tablet orally, after food, 12 hourly for 5 days 5. Tab Aceclofenac 100 mg, Serratiopeptidase 15 mg, Paracetamol 325 mg ,1 tablet, orally, twice daily after food for 5 days 6. Cap Rabeprazole sodium and domperidone 1 capsule, orally, daily before food for 5 days
9th POD	Stopped 4,5,6 7. Tab *Kanchanara Guggulu* 500 mg 2 tablets, orally, thrice daily after food with lukewarm water 8. *Varunadi Kashaya* 20 ml with 40 mL lukewarm water, orally, twice daily before food 9. Isagbol husk 1 tsp with 2 glasses of water early morning in empty stomach 10. Lukewarm sitz-bath with *Panchavalkal kwatha*
58th day	All the medications stopped.

Table 4: Wound assessment

Day	Assessment
POD 1	Mild pain VAS – 02 **Wound at 6'o clock / window:** • Floor – healthy • Pus discharge – mild **Wound at 7'o clock:** • Floor – healthy • Mild pus discharge • *Kshara Varti* was removed

POD 8	Mild pain VAS – 02 **Wound at 6' o clock:** • Floor – healthy • Pus discharge – present **Wound at 7'o clock:** • Floor – healthy • No pus discharge **Blind extension on DRE:** reduced
POD 15	Mild pain VAS – 01 **Wound at 6' o clock:** • Floor – healthy • Pus discharge – present **Wound at 7'o clock:** • Floor – healthy • Good wound contraction. **Blind extension on DRE: reduced**
POD 25	Mild pain VAS – 01 **Wound at 6' o clock:** • Floor – healthy • Pus discharge – present, mild **Wound at 7'o clock: completely healed** **Blind extension on DRE**: not palpable
POD 45	No pain at operated site. **Wound at 6' o clock** : No pus discharge, cut through done.
POD 58 (Figure 5)	Complete healing of the wound
Follow up after 3 months.	**No signs of recurrence** Bowel movements - Satisfactory
Follow up – 20 months.(Figure 6)	No signs of recurrence

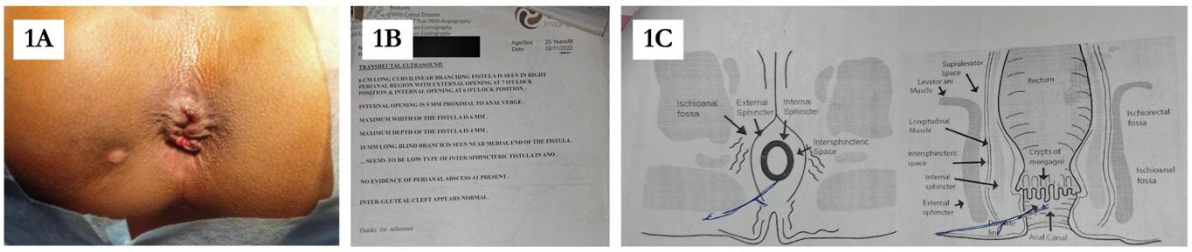

Figure 1A: Pre-operative image; Figure 1B: Pre-operative TRUS report; Figure 1C: Pre-operative TRUS diagram

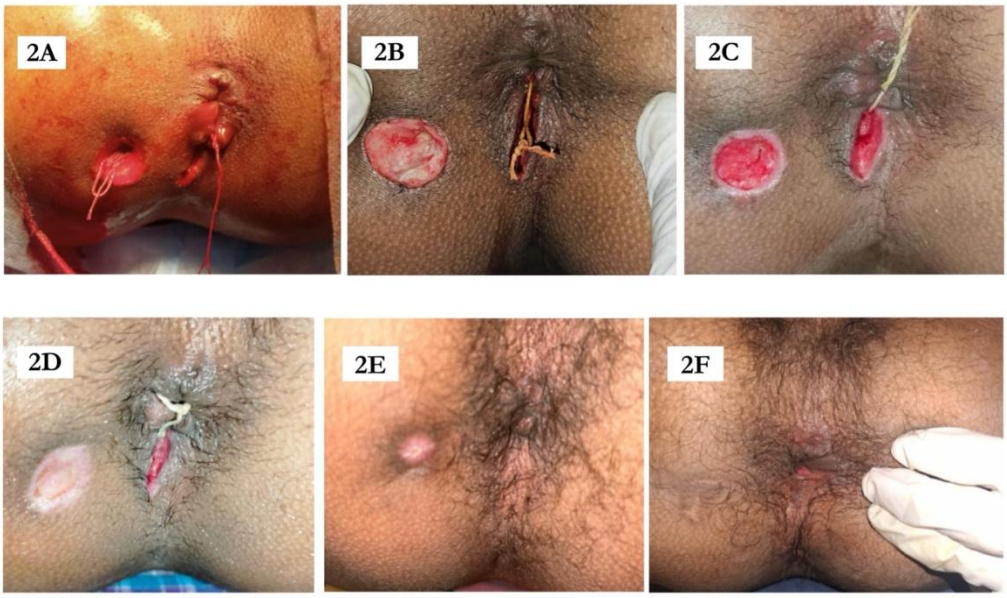

Figure 2A: Post operative image; Figure 2B: Post operative day 8; Figure 2C: Post operative day 15; Figure 2D: Complete healing of distal tract (POD 25); Figure 2E: Complete healing (POD 59)

DISCUSSION:

Anal fistula with blind branches often poses a surgical challenge to the surgeons due to its anatomical complexity and may lead to recurrence. Procedures such as fistulectomy and fistulotomy can be successfully used to treat anal fistula but they are having disadvantages such as stool incontinence due to sphincter damage, prolonged duration of healing and cosmetic disfigurement due to large wounds. The primary focus of fistula surgery is to eradicate crypto-glandular infection with minimum sphincter damage. Hence IFTAK was chosen in the present case.

Window was made at the outer border of external sphincter there by preventing the sphincter from direct injury. The *Ksharasutra* placed in the proximal tract helped to eradicate crypto-glandular infection by virtue of its *Chedana* and *Lekhana* property.[8] In this case, the interception performed at 6'o clock position effectively addressed both the primary tract and the associated blind ending branch. The gradual reduction in induration at 5' o clock position during post-operative digital rectal examinations confirmed adequate drainage and resolution of the crypto-glandular infection. As a result, the blind branch progressively dried and healed. Placement of *Ksharavarti* in the distal tract may have aided in removing residual debris and slough following surgical scooping. It ensured better clearance of infectious material.

Early ambulation helped to maintain gluteal muscle activity and likely promoted efficient drainage, there by supporting faster wound healing. Warm sitz-bath with *Panchavalkala Kwatha* promotes anal hygiene, decreases anal spasm and causes pain relief due to thermos-sphincteric reflex.[9] *Panchavalkala Kwatha contains* drugs which are having *Kashaya rasa, Grahi* and *Sothahar*a properties. It has proven anti-inflammatory, analgesic, anti-microbial and wound healing properties.[10] *Triphala Kwatha* was selected for wound healing due to its *Vrana Ropana* (wound healing) properties.[11] *Jatyadi Taila* was used for dressing due to its *Sodhana, Ropana* and *Vedanasthapana* properties. The ingredients of *Jatyadi Taila* have proven anti-bacterial and wound healing properties.[12] Ant-inflammatory and anti-bacterial

properties of *kanchanara Guggulu* against *E-coli* is well documented.[13] *Varunadi Kwatha* has *Kapha-Medonashaka* (eliminate vitiated *Kapha* and *Medas*) properties, *Kledashamana* (control wound exudates) and helps in achieving *Samprapti Vighatana* (breaking the pathogenesis).[14,15]

Management of distal tract often poses a challenge for many surgeons. The core principle is to ensure adequate drainage and precisely targeting the infected crypt with *Ksharasutra*. If the distal tract is associated with a large ischiorectal abscess, placing a draining seton may be advisable until discharge from the tract ceases. In the present case, no ischiorectal abscess was present. Hence draining seton was not placed. The use of *Ksharavarti* likely helped to clear residual debris after intraoperative scooping. Postoperative wound assessments confirmed that the drainage window remained adequately open, allowing proper drainage and smooth wound closure at the 7 o'clock position.

The selection of surgical procedure, along with any necessary intraoperative modifications, should be guided by the specific clinical findings of each case rather than applying a uniform, one-size-fits-all approach. This case exemplifies a patient-centred, evidence-based strategy, emphasizing diagnostic precision and functional preservation. The durability of the outcome was further supported by long-term follow up, which demonstrated no recurrence.

This is a single case report which can be considered as a limitation of the present work. Trans rectal ultra sonography (TRUS) was performed instead of magnetic resonance imaging (MRI) in this case as it was easily accessible, cost effective and has comparable accuracy in detecting internal opening of fistula.

CONCLUSION:

An inter-sphincteric fistula with a blind branch was successfully managed by IFTAK procedure. Complete wound healing was achieved in less than 2 months and no recurrence observed in 20- months follow up. This case report highlights the fact that diagnostic precision combined with case-specific selection of surgical procedure and integrated approach of medications are crucial in achieving success of fistula treatment. Similar studies presenting long-term follow-up outcomes of procedures such as IFTAK are essential to validate their clinical efficacy, ensure patient safety, and provide valuable evidence that strengthens the scientific literature and informs future clinical practice.

Consent of patient: Written informed consent was taken before the procedure.

Conflict of interest: The author declares that there is no conflict of interest.

Guarantor*:* The corresponding author is the guarantor of this article and its contents.

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