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Successful Treatment of Recto-Vaginal Fistula using the *Kshara sutra:* A Rare Case Report

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ABSTRACT:

Rectovaginal fistulas (RVFs) present a persistent clinical challenge, frequently complicated by high rates of recurrence and the significant risk of fecal incontinence following conventional surgical repair. These abstract details the successful treatment of a RVF in a 24-year-old female patient using the *Kshara Sutra*—an ancient herbal medicated seton. The procedure involved the application of the *Kshara Sutra* t following the administration of local Anaesthesia (lidocaine 2%) near the fistula tract. The thread was meticulously replaced weekly in an outpatient setting over a period of four weeks. Crucially, the treatment was completed without any complications, including foul smelling vaginal discharge, recurrent vaginal infection and passage of stool and air through the vagina. Following the intervention, the patient achieved complete fistulous tract healing and has remained fistula-free for the past 6 months. This case demonstrates that the *Kshara Sutra* offers a safe, effective, and minimally invasive alternative for treating RVF, circumventing the complications typically associated with more aggressive surgical approaches.

KEYWORDS: *Ayurveda, Bhagandar, Ksharasutra,* Rectovaginal fistula.

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INTRODUCTION:

A recto-vaginal fistula (RVF) represents an abnormal, epithelialized communication tract established between the lumen of the rectum and the vaginal canal. The aetiology of RVF is diverse, commonly arising secondary to obstetric trauma, iatrogenic injury sustained during surgical procedures, inflammatory conditions such as diverticular disease or Crohn's disease, and as a sequela of malignancy or therapeutic ionizing radiation exposure. [1-4]

In Ayurveda, as per *Acharya Sushruta, (Su.Ni 4)-*

"ते तु भगगुदवस्तिप्रदेशदारणाच्च भगन्दरा इत्युच्यन्ते । अपक्काः पिडकाः, पक्कास्तु भगन्दराः।"

Acharya Sushruta states that the condition is named *Bhagandara* (literally, that which tears or ruptures the *Bhaga* or perineal region) because it involves the bursting or splitting (*darana)* of tissues in the vital anatomical regions surrounding the anus (*Guda*), the perineum (*Bhaga*—referring to the genital/perineal area), and the urinary bladder (*Vasti*). This highlights the fistula's tendency to create tracts and openings in the perianal and surrounding pelvic regions.

RVFs are clinically stratified into distinct types based on their anatomical localization, a factor critical to determining the optimal therapeutic strategy. Low RVFs are situated in the distal third of the rectum and the inferior aspect of the vaginal canal. Their close proximity to the anal verge renders them amenable to management via a primary perineal surgical approach. Conversely, High RVFs are positioned between the mid-rectum and the posterior vaginal fornix and typically necessitate a more invasive transabdominal approach for definitive surgical correction. [5]

Therapeutic intervention for RVF mandates a multi-faceted approach, encompassing treatment of the underlying pathology, anatomical closure of the fistulous tract, and meticulous management of associated complications. We report a singular instance of a RVF achieving complete resolution following the application of *Kshara Sutra*, a traditional Ayurvedic therapy.

CASE REPORT:

A 24-year-old female patient presented with recto-vaginal fistula came to our OPD of Shalya Tantra of Pt. Khushilal Sharma Govt. Ayurvedic College and Hospital,Bhopal on 23 January 2025. The fistula's etiology was directly linked to a prior surgical history involving a colostomy. She presented complaints of foul-smelling vaginal discharge, recurrent vaginal infection and passage of stool and air through the vagina.

Patient history:

Surgical history: Colostomy Procedure was done a year back after which due to surgical injury or infection this fistulous tract occurred., for which patient underwent three times allopathic

surgical interventions in Nagpur (Local repair advancement of flap was done) but the problem was not resolved. Subsequently, this recurrent infection progressed, culminating in the formation of a fistulous communication extending to the anal region.

Medical history-

No history of hypertension, diabetes mellitus was there.

Clinical Presentation and Diagnostics:

A comprehensive physical examination was conducted at our OPD in January 2025. Upon inspection, the external orifice of the fistula was visualized immediately superior to the vaginal introitus, located at the base of the labia minora (Figure 1). On examination with the gloved finger, the external opening was seen at upper one-third of vaginal cavity and the anal opening at 12'o clock position 1.6 cm from anal verge.

MRI Fistulogram:

The diagnosis was confirmed by Magnetic Resonance Imaging (MRI) Fistulogram, which delineated a recto-vaginal fistulous tract. (Figure 2). Linear T1 hypointense and T2 hyperintense tract showing heterogeneous post contrast enhancement is seen arising from anterior wall of mid portion of anal canal and extending anteriorly and slightly superiorly for a length of approximately measuring 1.6 cm. It appears to be communicating with upper one third of vaginal cavity.

Lab investigations

Blood investigations-

Hb-12.2gm%, BT-2.50 min, CT-6.40 min, RBS-101.2mg/dl, HIV and HBsAg- non reactive.

The patient reported no history of obstetric trauma and was clinically stable, with no co-morbidities such as diabetes mellitus, Crohn's disease, tuberculosis, or known sexually transmitted infections. So, the decision was made to treat the tract using an herbal medicated thread known as *Kshara Sutra.*

THERAPEUTIC PROCEDURE-

Pre -operative procedures-

inj T.T was done, sensitivity for xylocaine 2% was done, informed consent was taken from the patient.

Operative procedures-

The patient was taken in lithotomy position. Painting and draping were done. The procedure was performed under local anaesthesia inj lignocaine 2% for adequate analgesia of the fistulous tract. A flexible copper probe was carefully advanced to fully delineate the course of the fistula. The *Kshara Sutra* was subsequently threaded through the external (vaginal) opening and retrieved through the internal (anal) opening and out of the anus. The proximal and distal ends of the *Kshara Sutra* were securely tied to maintain its constant position within the tract (Figure 3). The total duration of the procedure was approximately 20 minutes. The patient tolerated the

intervention well and was immediately discharged. (Figure- 3,4,5)

Post operative procedures-

Medications continued after operation-

- Hot sitz Bath with lukewarm water and *tankan Bhasma two time in a day*
- *Vranabasti* with *Jatyadi oil along the tract 5 ml twice a day*
- Tab *Saptvinshati guggulu 1g* -2 two-time in a day after food with water
- Tab *Gandhak Rasayan* 2 two time in a day after food with water
- *Triphala powder* 2 tsf at night with lukewarm water were continued.
- Supplementary medicines were not administered, as the herbal combination itself possesses antibacterial and antifungal properties.

Follow Up-

Weekly *Kshara sutra* thread changes were done on an outpatient basis and after four weeks of *Kshara Sutra* application, a clean, open wound was observed.

There were no complications such as severe bleeding, secondary infection, severe pain, and incontinence. Daily dressing was done with *tankan bhasma.* In 4 weeks, the wound was completely healed and the patient is experiencing no complications since 6 months.

A signed consent has been obtained from the patient for procedure as well as publication of the case for research without disclosing the identity.

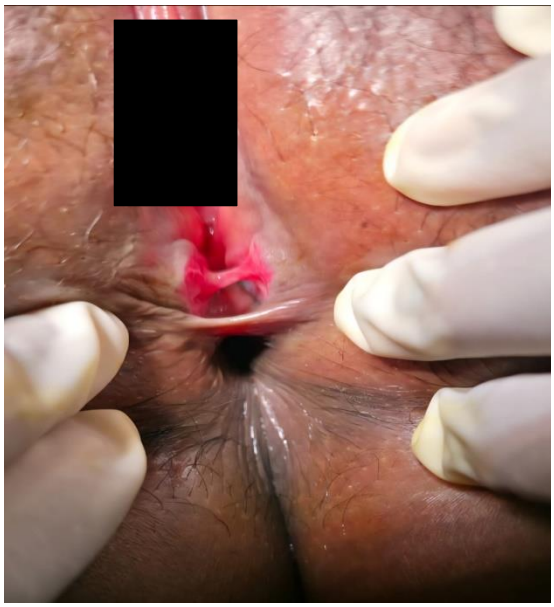
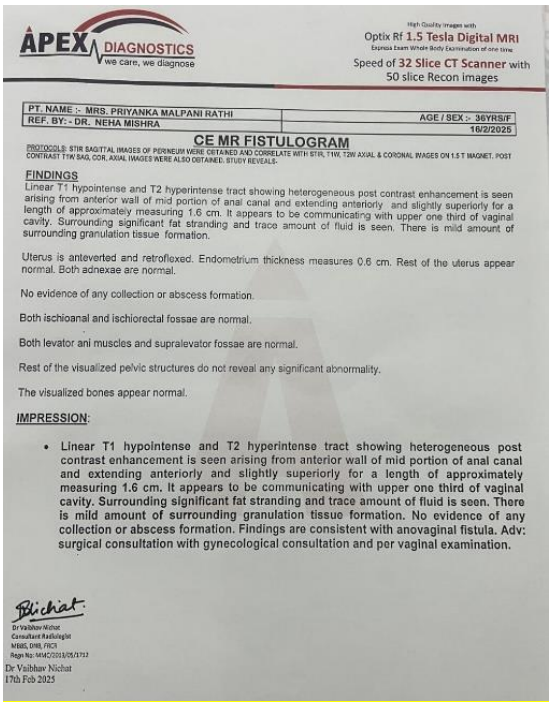


Figure 1: First consultation Ano rectal fistula



APEX DIAGNOSTICS
we care, we diagnose

Optix Rf 1.5 Tesla Digital MRI
Speed of 32 Slice CT Scanner with 50 slice Recon images

PT. NAME :- MRS. PRIYANKA MALPANI RATHI | AGE / SEX :- 36YRS/F
REF. BY: - DR. NEHA MISHRA | 16/2/2025

CE MR FISTULOGRAM

PROTOCOLS: STIR SAGITTAL IMAGES OF PERINEUM WERE OBTAINED AND CORRELATE WITH STIR, T1W, T2W AXIAL & CORONAL IMAGES ON 1.5 T MAGNET. POST CONTRAST T1W SAG, COR, AXIAL IMAGES WERE ALSO OBTAINED. STUDY REVEALS-

FINDINGS

Linear T1 hypointense and T2 hyperintense tract showing heterogeneous post contrast enhancement is seen arising from anterior wall of mid portion of anal canal and extending anteriorly and slightly superiorly for a length of approximately measuring 1.6 cm. It appears to be communicating with upper one third of vaginal cavity. Surrounding significant fat stranding and trace amount of fluid is seen. There is mild amount of surrounding granulation tissue formation.

Uterus is anteverted and retroflexed. Endometrium thickness measures 0.6 cm. Rest of the uterus appear normal. Both adnexae are normal.

No evidence of any collection or abscess formation.

Both ischioanal and ischiorectal fossae are normal.

Both levator ani muscles and supralevator fossae are normal.

Rest of the visualized pelvic structures do not reveal any significant abnormality.

The visualized bones appear normal.

IMPRESSION:

- Linear T1 hypointense and T2 hyperintense tract showing heterogeneous post contrast enhancement is seen arising from anterior wall of mid portion of anal canal and extending anteriorly and slightly superiorly for a length of approximately measuring 1.6 cm. It appears to be communicating with upper one third of vaginal cavity. Surrounding significant fat stranding and trace amount of fluid is seen. There is mild amount of surrounding granulation tissue formation. No evidence of any collection or abscess formation. Findings are consistent with anovaginal fistula. Adv: surgical consultation with gynecological consultation and per vaginal examination.

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MBBS, DMR, FRCR
Regn No: MMC/2015/05/1753

Dr Vaibhav Nichat
17th Feb 2025

Figure-2: MRI report of Anorectal fistula

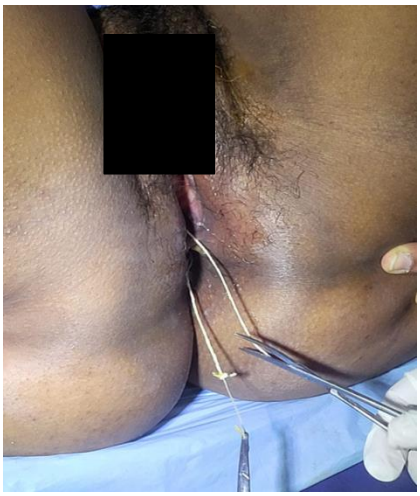

Figure 3 - During placing of ksharasutra

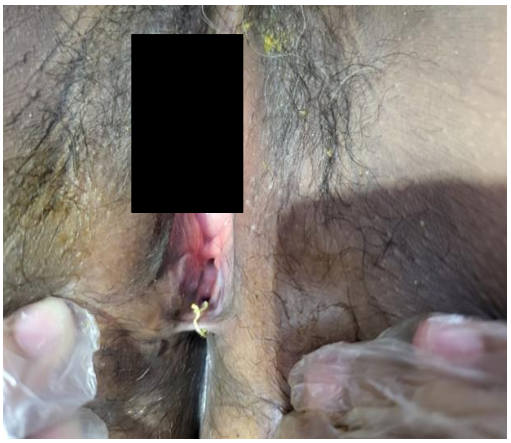

Figure 4: After kshara sutra change

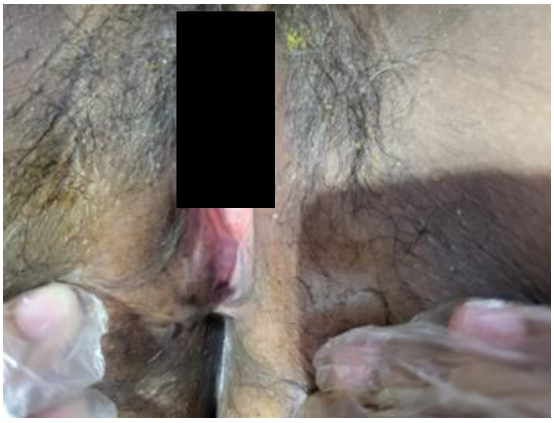

Figure 5: After complete recovery

DISCUSSION:

The therapeutic approach to Rectovaginal Fistula (RVF) centres on a multifaceted strategy that encompasses medical management, conservative non-surgical interventions, and surgical reconstruction, with considerations for the underlying etiology and complexity of the defect.

Medical and Conservative Approaches - Medical management is crucial for controlling local infection and associated symptoms, while simultaneously optimizing the treatment of any underlying systemic conditions, such as Crohn's disease or diverticulitis. [6-7] Additionally, supportive care is administered to enhance the patient's general health status. Conservative, non-surgical methods, such as the application of fibrin glue or other sealing techniques, are utilized with the aim of achieving fistula closure. However, the reported success rates for these interventions remain comparatively low. Surgical Principles and Techniques-The selection of surgical technique is guided by several factors, including the fistula's complexity, history of recurrence, and

the patient's underlying disease state. [8-11] In cases characterized by recurrence or active local infection, basic interventions such as the placement of a draining thread are employed. This technique is beneficial for controlling the infectious process and improving the health of the surrounding local tissue, thereby preparing the site for definitive repair.

Challenges and Core Principles-The close anatomical proximity of the rectum and vaginal walls, separated by only a thin tissue layer, renders RVF repair a technically demanding procedure. Successful repair is underpinned by adherence to three fundamental surgical principles:

Complete Excision: Thorough removal of the diseased fistulous tract.

Tissue Interposition: Placement of well-vascularized, healthy tissue to act as a physical barrier and promote robust healing.

Durable Barrier Creation: Establishing a long-lasting separation between the rectal and vaginal lumens.

While complete fulfillment of these principles may not always be feasible, their application significantly enhances the probability of successful fistula closure. Standard surgical practice includes debridement of the fistula edges and the use of tissue flaps.

Standard Flap Procedures- Common flap procedures are employed based on fistula characteristics:Local Endorectal Advancement Flaps: Typically reserved for simpler RVFs. Regional Gracilis Myocutaneous Flaps: Utilized for more complex cases requiring substantial tissue coverage. [12-13]

Historical and Alternative Treatments

RVF remains a complication associated with considerable difficulty in management, often yielding modest treatment success rates and negatively impacting the patient's quality of life. Historically, the use of setons has been documented, tracing back to Hippocrates, who mentioned the use of horse hair. A particularly noteworthy ancient Indian para-surgical technique is the *Kshara Sutra* therapy, which was formally elucidated for anal fistula by the surgeon *Sushruta* around 500 BC.

The *Kshara Sutra* Technique

The preparation of the *Kshara Sutra* thread is a methodical process. A standard Barbour's cotton thread (no. 20) is coated with a total of 21 layers of a specific herbal combination, applied sequentially in a sterile environment. This coating includes the latex of the *snuhi* plant (Euphorbia neriifolia Linn), a water-soluble extract of *apamarga* (Achyranthes aspera Linn), and turmeric powder.

This technique functions as a combination of a cutting seton and a sustained-release drug delivery system. The medicinal coating interacts with the infected tissue and dissolves within seven days, necessitating replacement with a fresh thread. The gradual cutting and healing action of the *Kshara Sutra* is posited to prevent complications such as fecal incontinence and other adverse effects. It represents an intermediate approach between aggressive and purely conservative treatments,

uniquely characterized by the lack of a requirement for post-operative medication for healing.

Post operative follow up -follow up at least 6 months after removal of tract, there are no discharge and no open wound

Limitation of study:

As this is single case study it needs to be studied in more number of cases for its scientific validation and long term follow up.

CONCLUSION:

RVF (Rectovaginal fistula) can be treated safely by an herbal *Ksharasutra* without any complications and recurrence with well tolerable and safe.

Informed Written Consent: Written consent obtained from parent for treatment as well as for publication of the data and images without disclosing the identity of patient.

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.

Source of support: None

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