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CASE STUDY

Innovative Management of Fistula-in-Ano: Integrating LIFT Procedure with *Ksharasutra* Therapy-A Case Study

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ABSTRACT
Fistula-in-ano (Bhagandara) is a chronic abnormal passage connecting the rectum or anal canal to the perineal skin, often challenging to manage due to its tendency to recur and the potential risk of incontinence. While fistulotomy or fistulectomy effectively treat simple fistulas, complex cases present surgical challenges. In Ayurveda, Ksharasutra therapy, described by Acharya Sushruta, offers a minimally invasive alternative. Modern Ksharasutra involves medicated threads prepared with Apamarg Kshar, Snuhi Ksheer, and Haridra choorna. Simultaneously, the Ligation of Intersphincteric Fistula Tract (LIFT) procedure has gained recognition as a sphincter-preserving approach, facilitating drainage and closure of the fistula tract. This case report presents a 33-year-old female patient with a 10-day history of pain and pus discharge. Diagnosis revealed a 4 cm intrasphincteric fistula tract, confirmed through clinical examination and Goodsall's rule. Surgical management integrated LIFT and Ksharasutra techniques. Postoperatively, Ayurvedic medications, including Triphala Guggulu and Gandhaka Rasayana, were administered to support tissue healing and inflammation control. Six Ksharasutra changes were conducted weekly. The combined approach demonstrated favorable outcomes with significant reduction in symptoms and enhanced healing. The discussion highlights the LIFT technique's effective closure of internal openings and Ksharasutra's progressive debridement, promoting the development of healthy granulation tissue. Ayurvedic medications were instrumental in alleviating inflammation and maintaining proper bowel function. This case underscores the effectiveness of a holistic approach incorporating both modern and traditional techniques for managing complex fistula-in-ano, minimizing recurrence, and preserving sphincter integrity.
Keywords: *Bhagandara, LIFT Procedure, Ksharasutra, Triphala Guggulu*

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INTRODUCTION

Fistula in Ano (*Bhagandara*) is a persistent granulating tract or cavity that connects the rectum or anal canal to the perineal skin. The optimal approach for treating fistula in ano involves eliminating the primary source of infection. Fistulotomy or fistulectomy typically yield favorable outcomes in cases of simple low anal fistulas. Complex Fistula-in-Ano often presents a high risk of recurrence, incontinence, and disruption of the natural anatomical structure. In *Ayurveda*, this condition is described as *Bhagandara*. Treatment can involve total excision or laying open of the fistula. *Acharya Sushruta* (500 B.C.), known as the Father of Surgery, described *Ksharasutra* (medicated seton) as a safe, alternative, and minimally invasive treatment approach. Now a days *Ksharasutra* is prepared by smearing *Apamarg Kshar, Snuhi Ksheer* and *Haridra choorna* on surgical linen thread No. 20. The duration of treatment of *Ksharasutra* is long depending on the length of tract, patient have to give follow up till cutting of whole tract weekly [1]. IFTAK and LIFT are distinct techniques currently used for managing high anal fistulas. The Ligation of Intersphincteric Fistula Tract (LIFT) is a modern sphincter-preserving technique for treating anal fistulas. It is applicable for both high and low fistulas, including simple and complex cases. Rojanasakul et al. first introduced the technique in 2007 for managing trans sphincteric anal fistulas [2]. The underlying principle of the technique is to remove the source of the sepsis, i.e., the

infected anal gland in the intersphincteric space, and divide the fistula tract without disturbing the sphincter complex.

CASE REPORTS

Age: - 33 years
Gender: Female
Marital status: Married
Occupation: Housewife
Date of Admission: 04/10/2024
Date of Discharge: 13/11/2024

Chief Complaints and Duration:

Patient complains of pain in ano and pus discharge from anal region in the last 10 days.

History of Present Illness:

Patient was apparently normal before 10 days. She sought treatment at nearby clinics for the same complaints and underwent conservative management, but experienced no significant improvement. So, she came to OPD No.106 *Shalyatantra*, Parul *Ayurved* Hospital.

Family History:

No H/O HTN, DM and any other major illness.

General Examination:

BP: 110/70 mmHg
Pulse: 86/Min
Temp.: Afebrile
SPO2: 99
CVS: S1 S2 Heard
RS: Chest clear on both sides
Digestive System: Normal
Appetite: Normal
Bowel: Constipated
Uro-Genital system: NAD

Clinical Findings

During examination in the lithotomy position, an external opening was observed in the perianal region at the 7 o'clock position, located 4 cm from the anal verge. On palpation, a thick, cord-like structure was detected extending from the anal canal at the 6 o'clock position to the external openings, with two pathways at the 7 o'clock position, approximately 4 cm in length. Digital rectal examination revealed internal opening at 6 O' clock position. Probing was done from external opening to access the internal opening which is on 6'O Clock. About 4 cm intrasphincteric tract was found during probing. On proctoscopy examination no any anal pathology was seen. After complete examination the diagnosis was confirmed as Fistula in Ano i.e., *Bhagandara*. In this patient perianal skin was normal with no dermatitis.

Investigations

All routine investigations are given below:

Table 1: Investigations Reports

HB	9.9
Total WBC Count	19000 /cumm
Platelets Count	270000/cmm
BT	1.48 Min
CT	1.32 Min
RBS	111 mg/dL
S. Creatinine	0.76 mg/Dl
HIV	Negative
HBsAG	Negative
VDRL	Negative
Urine R/M	Normal

TIMELINES

A proteolytic enema was administered early in the morning on the day of the surgery. After the patient passed the bowel, they were transferred to the recovery room, where an intramuscular injection of 0.5ml T.T. was given, followed by a subcutaneous injection of 2% plain xylocaine for a sensitivity test. The

patient was transferred to the major operating theater (OT) at PAH, where vital signs were monitored and found to be within normal range. Spinal anesthesia was administered, and once it took effect, the patient was positioned in the lithotomy position. According to Goodsall's rule, since the external openings are located anterior to the midline and more than 3.75 cm from the anal verge, the tract is expected to be curved and open posteriorly at the midline. To confirm this possibility, a mixture of betadine solution and hydrogen peroxide was injected through the external opening at the 7 o'clock position, and it emerged from the internal opening at the 6 o'clock position. The internal opening of the fistula was identified using hydrogen peroxide. A small incision was made in the intersphincteric groove at the 6 o'clock position, followed by blunt dissection to access the fistulous tract. The fistula tract was ligated with two separate Vicryl 2/0 sutures, after which the tract was excised (Figure 1). A probe was passed through the external opening, and a pseudo-opening was created near the external anal sphincter, which was then ligated with *Ksharasutra*. The intersphincteric incision was closed loosely with interrupted Vicryl 2/0 sutures, and Antiseptic dressing and packing were done with Betadine. The following medications were prescribed starting the next day.

- Tab. *Triphala Guggulu* (500mg), 2 tablets twice daily with lukewarm water after food.
- Tab. *Gandhaka Rasayan* (250mg),1 tablet three times a day with lukewarm water after food.
- ***Triphala Churna*** 5 g HS after food with lukewarm water.

Regular dressings were performed with Betadine and hydrogen peroxide. The *Ksharasutra* was changed every 7th day (Figure 2).

RESULTS

FOLLOW UP AND OUTCOMES

After 7th days patient was advised to Warm water sitz bath. The length of the *Ksharasutra* was monitored during each change to evaluate the progress of cutting and healing. Initially, there was a significant pus discharge after the first *Ksharasutra* session, which gradually decreased. A total of six *Ksharasutra* changes were performed, with each change occurring at 7 days intervals (Table No. 2). The fistulous tract was fully healed two months after the surgery (Figure 3).

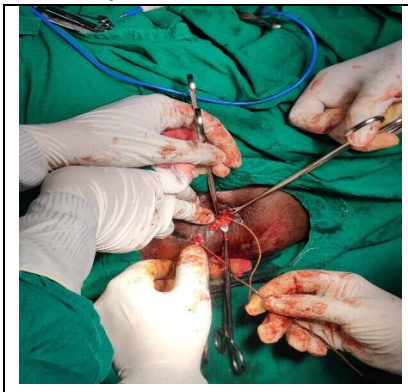

Figure 1: During LIFT and *Ksharasutra* ligation

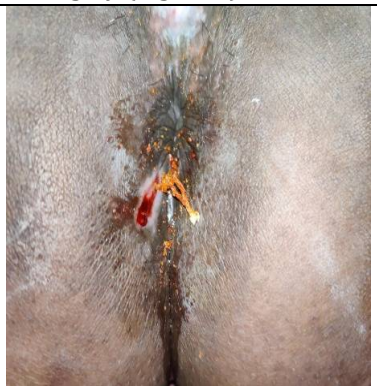

Figure 2: Changing *Ksharasutra*

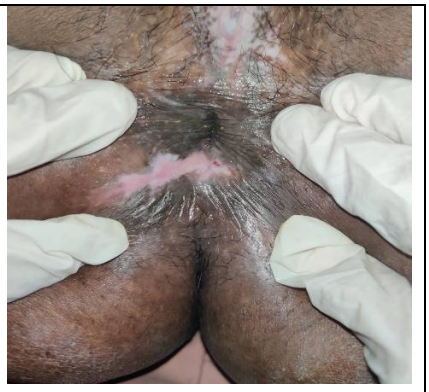

Figure 3: A healed Fistulous track

Table 2: Fistula lakshanas comparison

Lakshanas	**Before**	**After**
Shula	**++**	**-**
Kandu	**+++**	**+**
Daha	**++**	**+**
Shrava	**++**	**-**

DISCUSSION

The LIFT procedure combined with *Ksharasutra* application offers a novel approach that integrates the principles of fistulotomy and *Ksharasutra* placement. This technique promotes healing by providing a drainage pathway and allowing the fistula tract to close gradually. The application of *Ksharasutra* thread further aids in reducing inflammation and enhancing the healing process. LIFT procedure is based on secure closure of the internal opening and removal of infected cryptoglandular tissue through the intersphincteric approach [3]. The key steps of the procedure involve making an incision in the

intersphincteric groove, identifying the intersphincteric line, ligating it near the internal opening, and resecting it. This is followed by thorough debridement of all granulated tissue from the fistula tract and suturing the wound at the level of the external sphincter. Attention to detail is the key for a favorable outcome. *Ksharasutra* therapy provides a promising approach, characterized by a gradual yet consistent chemical action that clears debris from the fistula site. Additionally, it promotes the formation of healthy granulation tissue, facilitating a prolonged and deep tissue healing process. Moreover, *Ksharasutra* effectively dissolves dense fibrous tissue and aids in drainage, ultimately establishing a healthy foundation for tissue repair [4]. *Triphala Guggulu* helps alleviate inflammation and combat infections due to its anti-inflammatory and antimicrobial properties [5]. *Gandhaka Rasayana* promotes tissue remodeling by activating fibroblasts and modulating proteins involved in the process [6,7] .*Triphala* exhibits *Anulomana* action, which helps regulate *Apana Vata* and promotes smooth and effortless bowel evacuation [8].

CONCLUSION

The combined approach of LIFT and *Ksharasutra* therapy offers an innovative and effective solution for managing complex fistula-in-ano. This integration ensures secure closure of the internal opening, drainage, and gradual healing of the fistula tract. The use of *Ksharasutra* facilitates tissue debridement and promotes granulation tissue formation for sustained healing. *Ayurvedic* medications like *Triphala Guggulu* and *Gandhaka Rasayana* further enhance the healing process through anti-inflammatory and antimicrobial actions. This holistic approach demonstrates promising outcomes, minimizing recurrence and preserving sphincter integrity.

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