



AN INTEGRATIVE APPROACH IN THE MANAGEMENT OF FISTULA-IN-ANO (BHAGANDARA): A CASE STUDY ON PILTEC (PARTIAL INTERSPINCTERIC LASER TECHNIQUE

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ABSTRACT

Fistula-in-ano is a chronic anorectal condition characterized by an abnormal tract between the anal canal and perianal skin, often associated with recurrent infection and discharge. Recurrence remains a major challenge in its management despite various surgical interventions. Ayurveda describes this condition under *Bhagandara*, which is considered a difficult-to-treat (*Kruchrasadhya*) disease. Among the various treatment modalities, Ksharsutra therapy and its modified techniques have shown promising results due to their minimal invasiveness and low recurrence rate. This case study presents an 18-year-old female patient diagnosed with fistula-in-ano, having a history of previous surgical intervention. The patient presented with complaints of pus discharge from an external opening near the anal region. After thorough clinical examination and investigations, the patient was planned for surgical management using the PILTEC (Partial Intersphincteric Laser Technique) procedure under spinal anesthesia. During the procedure, the fistulous tract was identified using methylene blue dye and a silver probe. Curettage of the distal tract and intersphincteric fistulectomy were performed, followed by laser ablation of the remaining tract. Proper irrigation with antiseptic solutions was done. Postoperative management included antibiotics, analgesics, wound care, and regular dressing. The patient showed satisfactory recovery with healthy wound healing, minimal pain, absence of active infection, and no complications during follow-up. This case highlights that a combined approach integrating modern surgical techniques with Ayurvedic principles can be effective in managing fistula-in-ano, reducing recurrence, and promoting better healing.

KEYWORDS: Fistula-in-ano, Bhagandara, Ksharsutra, PILTEC, Laser fistulectomy.

INTRODUCTION

Fistula-in-ano is a chronic inflammatory condition characterized by an abnormal tract between the anal canal and perianal skin, commonly resulting from anorectal abscess and cryptoglandular infection.^[1] It is

associated with persistent discharge, pain, and a high rate of recurrence, making its management challenging.^[2] Despite advances in surgical techniques such as fistulectomy, fistulotomy, and laser procedures,

recurrence and complications like incontinence remain significant concerns.^[3]

In Ayurveda, fistula-in-ano is described as *Bhagandara*, one of the *Ashta Mahagada* (eight major diseases), known for its chronicity and difficulty in treatment.^[4] It is caused by vitiation of *Tridosha*, predominantly *Vata* and *Pitta*, leading to the formation of a suppurative tract in the anorectal region.^[5] Classical texts describe various types of *Bhagandara* based on Dosha involvement and clinical presentation, along with detailed therapeutic approaches.^[6]

Among the Ayurvedic treatments, *Ksharsutra therapy* is considered the gold standard due to its minimally invasive nature and lower recurrence rate.^[7] It involves the application of medicated alkaline thread, which promotes cutting, drainage, and healing of the fistulous tract simultaneously.^[8] In recent years, modern advancements such as laser techniques have been integrated with traditional principles to enhance treatment outcomes and reduce morbidity.^[9]

Considering the limitations of conventional surgical methods and the chronic recurrent nature of the disease, an integrative approach combining Ayurvedic and modern techniques appears promising. Therefore, the present case study aims to evaluate the effectiveness of PILTEC (Partial Intersphincteric Laser Technique) along with Ayurvedic principles in the management of recurrent fistula-in-ano.^[10]

AIM

To evaluate the effectiveness of PILTEC (Partial Intersphincteric Laser Technique) with an integrative Ayurvedic approach in the management of fistula-in-ano.

METHODOLOGY

A single case study of an 18-year-old female diagnosed with fistula-in-ano was conducted. The patient underwent PILTEC procedure under spinal anesthesia. The fistulous tract was identified using methylene blue dye and probe, followed by curettage, fistulectomy, and laser ablation. Postoperative management included medications, wound care, and regular dressing. The patient was followed up to assess wound healing, pain, discharge, and recurrence.

Case Study

Patient Information

A 18 year old patient came to our hospital without any comorbidities with complaints of Persistent pus discharge from an opening near the anal region since 1 year, Occasional pain and discomfort in the perianal region, History of recurrent fistula with previous surgical intervention.

History of Present Illness

The patient was apparently normal one year back, after which she developed pain and swelling near the anal

region followed by spontaneous rupture with pus discharge. She had undergone surgical treatment earlier 6 years and 1 years ago, but the symptoms recurred, presenting as continuous discharge from the external opening. There was no history of bleeding per rectum or significant systemic illness.

Past History

- History of previous surgery for fistula-in-ano 6 years and 2 years ago
- No history of diabetes, hypertension, or tuberculosis

Personal History

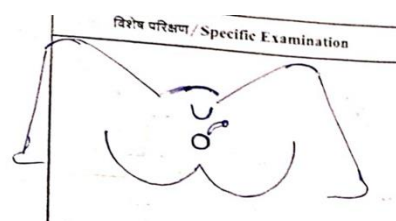
- Diet: Vegetarian
- Appetite: Normal
- Bowel: Regular
- Micturition: Normal
- Sleep: Normal

General Examination

- Pulse: 64/min
- Blood Pressure: 100/70 mmHg
- BMI: Within normal limits
- Systemic Examination: CNS conscious and oriented; RS – clear; CVS – normal

Local Examination (Per Rectal Examination)

- External opening present at perivulvar region at 10'clock
- Pus discharge noted
- Surrounding area mildly inflamed
- Internal opening at 10'clock



Diagnosis

Fistula-in-Ano (*Bhagandara*)

Treatment Plan

- Planned for surgical intervention – PILTEC (Partial Intersphincteric Laser Technique)
- Informed written consent obtained
- Pre-operative investigations and fitness assessment done
- Patient kept nil by mouth (NBM) from midnight

Operative Procedure

The patient was taken to the operation theatre after confirming fitness for surgery and maintaining nil per oral status from midnight. After obtaining informed written consent, spinal anesthesia was administered in the sitting position under strict aseptic precautions. The patient was then placed in the lithotomy position.

The perianal region was cleaned, painted, and draped properly. Anal dilatation was performed gently, followed by digital rectal examination and visualization using an anoscope to assess the internal pathology.

To identify the fistulous tract, methylene blue dye was injected through the external opening. The dye stained the tract and confirmed the internal opening. A silver probe was then carefully introduced through the external opening to delineate the course of the tract. PILTEC procedure was performed. The entire fistulous tract was thoroughly irrigated with antiseptic solutions including betadine, hydrogen peroxide, and normal saline to ensure complete cleansing. After adequate clearance, laser ablation was performed using a radial emitting laser probe to destroy the remaining fistulous tract and infected tissue. This helped in sterilization of the tract and promoted healing while preserving sphincter integrity.

Hemostasis was achieved, and the wound was left open for drainage. Sterile dressing was applied over the operative site. The patient tolerated the procedure well and was shifted to the recovery room in stable condition.

Post-operative Management

- Antibiotics (e.g., Monocéf)
- Analgesics for pain management
- Regular dressing with antiseptic solutions
- Sitz bath advised
- Monitoring of vitals and wound condition

Post-operative Findings / Dressing Notes

- Wound healthy
- Mild slough present initially
- No active bleeding
- Slough removed during dressing
- External opening irrigated and cleaned
- Progressive healing observed

Outcome and Follow-up

The patient showed satisfactory recovery with:

- Reduced pain
- Absence of discharge
- Healthy wound healing
- No complications during hospital stay

The patient was discharged in stable condition and advised regular follow-up.

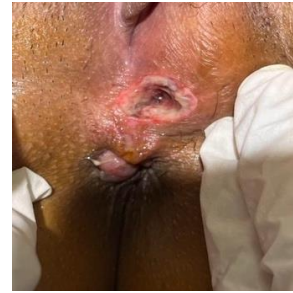
OBSERVATION

Pre operative-

- Patient had pus discharge from peri anal region near vulvar area
- Patient has anal discomfort

Immediate Post operative-

POD-1



POD-2



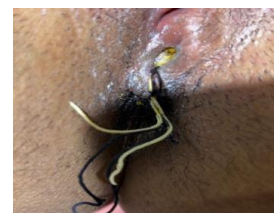
- Patient remained afebrile throughout the hospital stay
- Pain was mild to moderate initially and gradually reduced
- No active bleeding observed postoperatively
- Wound appeared healthy with mild slough in early phase
- Slough was removed during regular dressing

Complete Healing of wound

- No signs of infection noted
- Bowel and micturition were normal

Patient was undergone ksharsutra insertion for drainage of any remaining pus or debris

- Patient was conscious, oriented, and hemodynamically stable



Result

- Significant reduction in pain and discomfort
- Complete cessation of pus discharge
- Healthy granulation tissue formation observed
- Progressive wound healing without complications
- No recurrence observed during follow-up period

Overall Outcome

The patient showed satisfactory recovery with effective healing and no postoperative complications, indicating that the PILTEC procedure along with the help of kasharsutra insertion in the post operative phase is a safe and effective approach in the management of fistula-in-ano.

DISCUSSIONS

Fistula-in-ano is a chronic and recurrent condition that poses a significant challenge in surgical practice due to its tendency for recurrence and risk of complications such as incontinence. In Ayurveda, it is described as *Bhagandara*, a disease involving *Tridosha Dushti*, predominantly *Vata* and *Pitta*, leading to suppuration and formation of an abnormal tract in the anorectal region. The recurrent nature of the disease in this case can be correlated with incomplete eradication of the fistulous tract and persistent *Dosha Dushti*, particularly vitiated *Apana Vata*, which governs excretory functions.

In the present case, the patient had a history of previous surgical intervention, yet recurrence occurred, indicating that the primary pathology was not completely resolved. This aligns with both modern and Ayurvedic understanding, where failure to eliminate the internal opening or infected crypt leads to persistence of the disease. The use of methylene blue dye and probing helped in accurate identification of the fistulous tract, ensuring proper surgical management.

The PILTEC (Partial Intersphincteric Laser Technique) procedure represents a minimally invasive advancement that combines the principles of fistulectomy with laser ablation. Curettage of the tract removes unhealthy granulation tissue and debris, which can be compared to *Shodhana Chikitsa* (purificatory approach) in Ayurveda. Laser ablation further destroys the residual infected tissue and helps in sterilization of the tract, reducing the chances of recurrence. With the help of *Ksharsutra*, which performs simultaneous cutting, curettage, and healing of the tract.

From an Ayurvedic perspective, proper drainage and removal of *Dushta Vrana* (infected wound) are essential for healing. The surgical excision and *ksharsutra* performed in this case helped in eliminating the *Dushta Mamsa* and *Pus*, thereby preventing further spread of infection. Irrigation with antiseptic solutions ensured cleanliness of the wound, which can be correlated with *Vrana Shodhana* (wound cleansing).

Postoperative management played a crucial role in successful healing. Regular dressing, maintenance of hygiene, and use of antibiotics prevented secondary infection and promoted healthy granulation tissue formation. The observation of mild slough initially followed by progressive healing indicates proper wound response. Absence of discharge and infection suggests effective eradication of the fistulous tract.

The role of *Agni* and *Dhatu Poshana* is also important in wound healing. Proper nutrition and metabolism support tissue regeneration, which is reflected in the patient's uneventful recovery. The absence of systemic symptoms and stable vital parameters further indicate good overall health and immunity.

Compared to conventional surgical methods, the PILTEC procedure offers advantages such as minimal tissue damage, reduced postoperative pain, faster healing, and lower recurrence rate. It also preserves sphincter integrity, thereby minimizing the risk of incontinence, which is a major concern in fistula surgeries.

Thus, this case demonstrates that an integrative approach combining precise surgical technique with principles of Ayurveda provides effective management of fistula-in-ano. It not only addresses the local pathology but also supports overall healing, thereby reducing recurrence and improving patient outcomes.

CONCLUSION

Recurrent fistula-in-ano is a challenging condition due to its chronic nature and high risk of recurrence. The present case demonstrates that the PILTEC (Partial Intersphincteric Laser Technique) procedure is an effective and safe modality for managing recurrent fistula-in-ano. The technique ensures precise identification and complete eradication of the fistulous tract while preserving sphincter integrity, thereby minimizing complications such as incontinence. Also it is minimally invasive, has minimal discomfort to the patient, ensures early employment. From an Ayurvedic perspective, the management aligns with the principles of *Bhagandara Chikitsa*, emphasizing removal of *Dushta Vrana*, proper drainage, and promotion of healing. The laser procedure is more expensive so can be adopted by patients with good socioeconomic class. The combined approach of surgical intervention and appropriate postoperative care resulted in satisfactory wound healing, absence of infection, and no recurrence during follow-up.

Thus, an integrative approach incorporating modern surgical techniques with Ayurvedic principles proves to be a promising strategy in the effective management of recurrent fistula-in-ano, improving patient outcomes and reducing recurrence rates.

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