



Management of Pilonidal Sinus with Apamarga Kshara Sutra—A Case Study

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Abstract

Pilonidal sinus disease is a chronic granulomatous condition caused by the presence of hair in the subcutaneous tissue. Management ranges from hygiene measures to complex surgical interventions, yet recurrence remains common. Pilonidal sinus bears similarity with Shalyaja Nadi Vrana described in the Sushruta Samhita. Acharya Sushruta advocated a minimally invasive para-surgical technique—Kshara Sutra—for Nadi Vrana. This case study presents a patient treated with Apamarga Kshara Sutra, resulting in complete recovery within four weeks with minimal discomfort and recurrence.

Keywords: Pilonidal sinus, Nadi Vrana, Apamarga Kshara Sutra.

Introduction

Pilonidal sinus, meaning “nest of hairs,” was first described by Mayo in 1833. During World War II, it gained the nickname 'Jeep disease' due to its prevalence among drivers. It primarily affects young males in their 2nd and 3rd decades, usually in the sacrococcygeal region.

The condition often presents as an abscess or continuously draining sinus tract and leads to severe morbidity. Although various surgical techniques like excision with primary closure, marsupialization, Z-plasty, and flap reconstructions are used, many are associated with prolonged healing and recurrence.

Case Report

Patient Profile:

- 19-year-old male student
- OP No: 21670/3548
- Date: 16th May 2025

Complaint: Pus discharge with intermittent pain at sacrococcygeal junction for 5 months

History

- No history of diabetes, hypertension, CAD, CKD, epilepsy, tuberculosis, etc.
- No previous surgeries
- Appetite, bowel movements, sleep: normal
- Vitals: Stable

Examination Findings

- 3–4 midline external openings above buttocks
- Pus discharge and tenderness present
- Probing showed interconnected sinuses (length 4 cm)



Fig 1: Pre-operative image showing external sinus openings with inflammation and pus discharge (16 May 2025, 11:35 am).

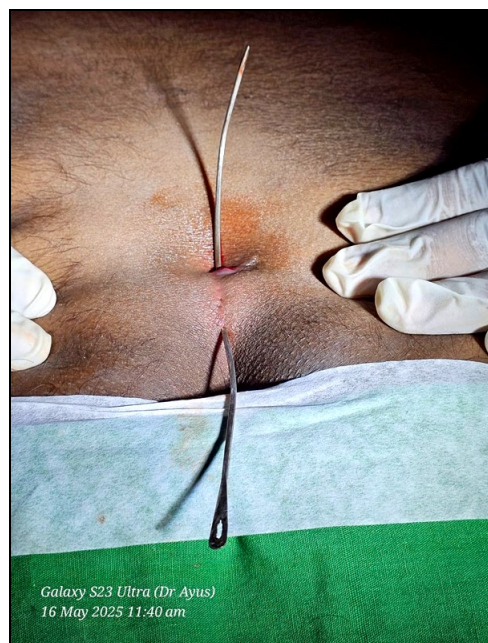


Fig 2: Intra-operative image showing the probe passed through the sinus tract before threading (16 May 2025, 11:40 am).



Fig 3: Kshara Sutra being threaded through the tract using a probe; infected material being drained (16 May 2025, 11:48 am).

Observations and Results



Fig 4: Post-operative image showing complete healing of the sinus tract with scar formation and no signs of discharge (after 1.5 months).

Post-operative Care

The patient was advised to take sitz bath twice a day to keep the operated area clean and dry. The Kshara Sutra was changed weekly using the railroad technique. Antiseptic dressing was performed on alternate days to support wound healing.

Medications Prescribed

- **Saptavimsati Guggulu:** 2 tablets BD after food
- **Arogyavardhini Vati:** 2 tablets BD before food
- **Septilin:** 2 tablets BD after food
- **Jatyadi Ghrita:** Local application
- **Kshara Sutra Change:** Once weekly
- **Diet:** Fiber-rich diet advised

Follow-up and Progress

Regular follow-ups were conducted to assess the patient's symptoms: pain, pus discharge, and tenderness. Discharge and pain were present during the initial 5 days and gradually subsided. Complete wound healing was observed within 10 days post thread cut-through.

Follow-up Observations:

Pain: +++ (1st) → ++ (2nd) → + (3rd) → - (4th)

Discharge: +++ (1st) → ++ (2nd) → + (3rd) → - (4th)

Tenderness: ++ (1st) → + (2nd) → - (3rd & 4th)

Discussion

Pilonidal sinus (*Nadivra*) presents significant challenges in modern surgical practice due to its high rate of recurrence, prolonged healing time, and post-operative discomfort. Despite the availability of several surgical techniques such as excision with primary closure, marsupialization, Z-plasty, and flap surgeries (like rhomboid or Limberg flaps), none guarantee complete eradication of the disease without drawbacks like prolonged downtime or complications. In this context, *Kshara Sutra* therapy, an Ayurvedic para-surgical technique described by Acharya Sushruta, has proven to be a safe, effective, and minimally invasive alternative.

Acharya Sushruta has emphasized the treatment of *Nadi Vrana*—a condition analogous to pilonidal sinus—through the use of *Kshara Sutra* in *Nadi Vrana Chikitsa*. This method involves the application of a medicated thread prepared with layers of herbal alkaline compounds (primarily Apamarga Kshara), latex (*Snuhi*), and antimicrobial agents like *Haridra* (turmeric). The Apamarga Kshara Sutra employed in this study exhibits multiple pharmacological actions due to its composite properties: *Shodhana* (cleansing), *Ropana* (healing), *Lekhana* (scraping), and *Krimighna* (antimicrobial).

Mode of Action of Apamarga Kshara Sutra

i). **Mechanical Action:** As the thread is gradually tightened or replaced weekly, it exerts a controlled mechanical pressure that slowly cuts through the sinus tract. This cutting through is atraumatic and allows for simultaneous healing from the base, thereby avoiding open surgical wounds or large scars.

ii). **Chemical Action:**

- **Shodhana (Debridement and Cleansing):** The alkaline nature of Apamarga Kshara facilitates liquefaction and removal of necrotic tissue, slough, and purulent material. This helps in detoxifying the local wound environment, allowing healthy granulation tissue to form.

- **Ropana (Healing Promotion):** *Snuhi* latex and *Haridra* possess wound healing and anti-inflammatory properties that enhance tissue regeneration. These ingredients stimulate fibroblast activity and epithelialization, expediting wound closure.
 - **Lekhana (Scraping Action):** The scraping quality helps remove unhealthy granulation tissue, sinus tracts, and accumulated debris within the sinus cavity, ensuring complete tract obliteration.
 - **Krimighna (Antimicrobial):** *Haridra* and *Kshara* have proven antimicrobial activity against common pathogens. This reduces local microbial load and prevents secondary infection.
 - **Ushna (Hot) and Tikshna (Penetrative) Properties:** These enhance tissue penetration, cauterization of crypts and sinus branches, and destruction of infected glandular tissue or hair follicles, which are often the nidus for recurrence.
- iii). **Immunomodulatory and Anti-inflammatory Effect:** Ingredients like *Haridra* also modulate local immune responses, reducing chronic inflammation that sustains sinus tract formation. This results in reduced pain, swelling, and faster resolution.
- iv). **Drainage and Ventilation:** The presence of the thread allows continuous drainage of pus or debris from the sinus tract, preventing accumulation and abscess formation. It also provides a controlled path for healing tissue formation from within.
- v). **Minimal Tissue Damage and Low Recurrence:** Unlike conventional surgeries that involve wide excision and potential loss of tissue planes, *Kshara Sutra* enables natural wound contraction without creating new dead spaces. This reduces the risk of recurrence significantly.

Conclusion

In this case, complete cut-through of the tract was observed within 4 weeks, followed by full healing in 10 days post cut-through. There were no post-operative complications or recurrence during the 2-month follow-up period. The patient resumed daily activities early, without hospital admission or extensive wound care, illustrating the convenience and efficacy of this therapy.

Modern surgical management of pilonidal sinus is often associated with high recurrence and discomfort. In contrast, *Kshara Sutra* therapy is a minimally invasive, cost-effective Ayurvedic intervention that ensures complete healing, removal of infected debris, and a low recurrence rate. This case study highlights the effectiveness of *Apamarga Kshara Sutra* as a reliable therapeutic modality in managing pilonidal sinus.

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