



Surgery

'TAILA DĀHA'- THERAPEUTIC CAUTERIZATION WITH HOT OIL: A PROMISING METHOD TO STIMULATE GRANULATION TISSUE IN PILONIDAL SINUS - A CASE STUDY

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ABSTRACT Sacrococcygeal pilonidal sinus (Nāḍivraṇa) is a common disorder among young adults. Observed mostly in people aged 15-30 years (Pilonidal Cyst and Sinus: Background, Pathophysiology, Epidemiology, n.d.). An epithelial track (the sinus), which is often hair-filled and located in the skin of the natal cleft just beyond the anus, is what distinguishes this condition. According to Acharya Susrutha, hair might contribute to the development of sinuses (Susrutha, 2010d). The various methods of management include Kṣārasūtra (herbal seton) ligation (Agnivesa et al., 2010) (Susrutha, 2010d) and Tailadāha (cauterization with hot oil) (Susrutha, 2010b). It has been discovered that combining Kārasūtra with Tailadāha's supplementary impact is a novel strategy that accelerates the healing process. Therefore, an effort was made to develop a straightforward and efficient treatment that ultimately enhances quality of life. This case report portrays the management of pilonidal sinus in a 15-year-old female patient through Ayurveda. Initially, Kārasūtra ligation was done. As the sinus or tract has cut and near to the surface, excision of the tract and Tailadāha was done with Yastimadhu *taila*. The study's conclusion was the return of normal anatomical structure and painless wound healing using a minimally invasive and inexpensive procedure.

KEYWORDS : Herbal seton, Pilonidal sinus, Cauterization, *Tailadāha*

INTRODUCTION

Pilonidal sinus disease, a benign inflammatory disorder affecting the hair follicles, can develop anywhere in the crease between the buttocks that extends from the sacrum to the anus (*Pilonidal Sinus Disease: MedlinePlus Medical Encyclopedia*, n.d.). It is an acquired chronic illness that causes high morbidity and related medical expenses (Mahmood et al., 2020). It shows male predominancy with a male to female ratio, 3-4:1 with the highest incidence in late teens and early 20s (*Pilonidal Cyst and Sinus: Background, Pathophysiology, Epidemiology*, n.d.). The sinus is present usually as a primary opening in the midline at the base of the natal cleft with one or more secondary openings either in the midline or lateral to the primary opening, often a palpable track through which pus discharges. Mostly clinical diagnosis would be enough, but radiological examinations may be done to rule out the direction and ramifications of the track.

The treatment modalities including excision, marsupialization and reconstructive flap surgeries are either painful procedures, not so cost-effective, or not free from recurrence rates.

Pilonidal sinus can be correlated to that of *Nāḍivraṇa* in Ayurveda. There are various successful Ayurveda treatment methods available for its management. In Ayurveda, treatment modalities including

TREATMENT PROTOCOL

DATE	FOLLOW UP DETAILS	MEDICINES	IMPRESSION
10.06.2021	On examination- 2 openings in the midline at the base of the natal cleft.	Triphala Guggulu, Gandhaka rasāyana, Marma Gulika	Localized tenderness, discharge of pus, swelling & reddish discoloration
13.06.2021	Routine blood investigations done before surgery	Continue same medicines	Informed consent signed for operative intervention by <i>Kṣārasūtra</i>
17.06.2021	<i>Guggulu Kṣārasūtra</i> ligation done.	Triphala Guggulu, Cap. Panion plus, Tab septillin, Chandanādi ointment, Triphala cūrṇa- for kaṣāya (used for cleaning wound)	Pain- moderate
19.06.2021	Examination done	Continue same medicines	Pain, pus- mild
24.06.2021	<i>Guggulu Kṣārasūtra</i> ligation done.	Tab Septillin, Tab Gandhaka rasāyana, Triphala guggulu, Triphala cūrṇa	Pain, pus- mild

Kṣārasūtra ligation and *Tailadāha* are successful in managing the pilonidal sinus, also these prevent the recurrence rates.

CASE REPORT

On 10.06.2021, a 15-year-old female patient came to the Shalya tantra OPD of Amrita School of Ayurveda with complaints of pain in the natal cleft associated with discoloration and swelling for the past 1 month. Other pathologies like systemic illness, abscess due to pelvic inflammations, trauma, haemorrhoids, fissure-in-ano, and fistula-in-ano were excluded.

CLINICAL FINDINGS

On Inspection, external opening was covered with pustule found in the intergluteal region with minimal surrounding inflammatory oedema. On palpation, Grade 2 tenderness and slight pus discharge noted. On probing through the external opening along a blind tract, the tip of the probe was felt superficially 4.5cm above the external opening.

DIAGNOSIS

Based on the presenting complaints like pain with discoloration and swelling in the natal cleft and clinical examination which revealed the presence of an external opening in the area through which a sinus was probed, this case was diagnosed as pilonidal sinus.

01.07.2021	Guggulu Kṣārasūtra ligation done.	Continue same medicines	Pain- mild Pus- absent
08.07.2021	Kṣārasūtra is in-situ. Moved slightly to promote drainage.	Continue same medicines	Pain- mild Pus- absent
09.07.2021	Chedana (excision) done. Tailadāha done with heated Yaṣṭimadhu taila (10ml)	Continue same medicines Yaṣṭimadhu taila (for daily dressing)	
14.07.2021	Examination done Dressing done with Yaṣṭimadhu taila	Continue same medicines and dressing	Pain and pus- absent Wound- healthy & healing De-sloughing done
19.07.2021	Examination done Dressing with Yaṣṭimadhu taila	Continue same medicines and dressing	Wound edges almost approximated
24.07.2021	Examination done Dressing with Yaṣṭimadhu taila	Tab Gandhaka rasāyana, Tab Triphala Guggulu, Triphala cūrṇa, Yaṣṭimadhu taila	Pain, pus- absent Wound edges approximated
29.07.2021	Examination done	Continue same medicines and dressing	Wound edges approximated
03.08.2021	Examination done	All medicines stopped	Wound healed completely

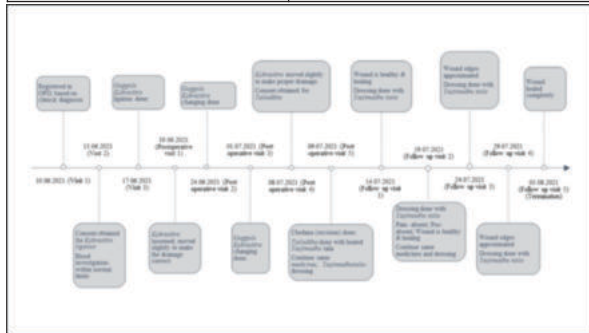


Figure 1- Time Line

Guggulu Kṣārasūtra Ligation

A small incision was made over the external opening. The embedded hair and unhealthy granulation tissue were removed. Probing was done through this opening. The tip of the probe was taken out through the blind end of the tract, 4.5cm above the external opening and Kṣārasūtra was ligated. It acts as a haemostat and aids in the continuous debridement of the sinus.

Tailadāha

When the wound ends have neared about 3 cm by cutting through Kṣārasūtra, it was cut opened and Tailadāha with Yaṣṭimadhu taila (medicated oil prepared with Yaṣṭimadhu as per classical method) was done after debriding the unhealthy granulation.



Figure 2- 09.07.2021: Excision before Tailadāha.



Figure 3- 09.07.2021: Tailadāha with Yaṣṭimadhu taila



Figure 4- 03.08.2021: Healed completely without leaving a scar.

INVESTIGATIONS

Routine blood examination was done on 13.06.2021- All parameters were within normal limits.

DISCUSSION

Pilonidal sinus is a chronically inflamed, persistent groove in the natal cleft that can be congenital or acquired. The current instance is of the acquired type. Due to the site's hairiness and ongoing friction over the region brought on by energetic motions, the disease may have been brought on by hair being trapped in the natal cleft's portion.

Acharya Charaka has mentioned Bhagandara can be cut through Kṣārasūtra ligation followed by Vraṇa cikitsa. A similar treatment modality can be adopted in pilonidal sinus also (Agnivesa et al., 2010). Acharya Suśrutha explained that the treatment of pilonidal sinus includes Chedana with Kṣārasūtra or by cutting with sharp instruments followed by foreign body removal and cleansing of the tract and application of wound healing drugs along with ghee, oil, and honey (Susrutha, 2010d). In Bhagandara cikitsa, Acharya described the fistula track should be cut open and the wound can be treated using external applications and Kṣāarakarma or Agnikarma. If pain arises due to surgical intervention, sprinkling of hot Anutaila is advised (Susrutha, 2010b). This can be considered Acharya Suśrutha's idea of analgesia through Tailadāha.

After the cut-through of the Pilonidal sinus with Kṣārasūtra, the wound was treated with Tailadāha, which is a measure to control bleeding immediately after debriding the sinus tract which explains Sushruta's idea of haemostasis by cauterization.

In experimental research on the role of topical radiant heating (TRH) in wound healing, it was shown that both healthy and wounded skin responds to TRH by increasing dermal microvascular blood flow, which is briefly accompanied by a rise in lymphocyte CD3 antigen positivity. In comparison to non-heated wounds, they discovered that TRH showed a 195 percent increase in CD3-positive cells after 24 hours. According to the study, acute wounds receiving TRH have early lymphocytic infiltrates, which may improve the likelihood that the wound will heal (Khan et al., 2004).

The phytoconstituents of Glycyrrhiza glabra are responsible for its

wound healing action (anti-inflammatory, anti-oxidant, anti-microbial etc. properties) (Pastorino et al., 2018). By having anti-inflammatory and anti-oxidant qualities, encouraging cell division, raising collagen production, supporting dermal reconstruction, and restoring the lipid barrier function of the skin, the medicinal oil of *Glycyrrhiza glabra* offers further advantages in the healing of wounds (Lin et al., 2018). The *Yashtimadhu taila* can penetrate up to the *sirā, snāyu* level (Susrutha, 2010a) and aid in wound healing due to the *uṣṇa, tīkṣṇa, vyavāyi, sūkṣma, viśada, vikāsi, lekhaṇa, tvakprasāda* properties of *taila* (Susrutha, 2010c). The warm *Yashtimadhu taila* might have caused wound debridement and cell proliferation by penetrating deep into the tissues.

This may be the reason for restoration of the lost anatomical structure in the area. It can be considered that the wound healing properties of *Yashtimadhu taila* are enhanced by the topical heat when the oil is heated and thus aided in the positive results here.

Unit cutting time of *Kṣārasūtra* is approximately 0.7 to 1mm per day. It may take up to 45 to 50 days to cut a 4.5cm track. Treatment of pilonidal sinus through *Kṣārasūtra* ligation alone requires long duration, frequent painful thread changes and related complications like scar formation. Thus, innovative management that could overcome the disadvantages and ultimately improves the quality of life was suggested. Through this approach, the whole tract healed in 32 days (17.06.2021 to 19.07.2021). Further to maintain the tensile strength of the wound dressing was continued till 03.08.2021.

The choice of internal medicines was done based on those promoting wound healing and pain relief.

CONCLUSION

Sacrococcygeal pilonidal sinus is commonly found in sedentary workers like those who do continuous sitting, exertion etc. put hair inside the post-anal region of pits. *Guggulu kṣārasūtra* has an anti-inflammatory, anti-fungal, minimally invasive, day-care procedure, cost-effective, has no serious side effects, do not hinder the day-to-day activities of the patient. Together, *Tailadāha* and *Yashtimadhu taila* aided in tissue organization, epithelization, wound contraction, and inflammatory cell infiltration. wound debridement and stimulation of granulation tissue. The combined treatment here reduced the time period of healing from 45 to 50 days to about 30 days.

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Author Contributions

Dr. Shilpa S: Visualization, Methodology, Writing- Original draft.

Dr. Parvathy C R: Writing- Review and editing.

Dr. Rajeshwari P N: Conceptualization, Supervision, Writing- Review and Editing.

Dr. Rabinarayan Tripathy: Writing- Review and Editing, Validation.

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