



Management Of *Nadi Vrana* (Pilonidal Sinus) With *Ksharavarti* Followed By *Ksharasutra*: A Case Study

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Abstract

Ksharavarti, *Kshara Sutra* are mentioned by *Sushruta* in the management of *Nadivrana* (pilonidal sinus). **Aims and Objective:** to see the effectiveness of the *Apamarga Ksharavarti* followed by *Apamarga Ksharasutra* in *Nadivrana* (pilonidal sinus) with special emphasis on avoiding recurrence. **Material and Method:** Initially, *Apamarga Ksharavarti* (kept in an external opening for 2 weeks) followed by *Apamarga Ksharasutra* ligation in the pilonidal sinus (for 3 weeks), and the dressing was done with *Jatyadi Taila*. **Results:** *Ksharavarti* and *Kshara Sutra* showed highly significant results in this case, with less recovery period, the wound was completely healed in 6 weeks without any recurrence. **Conclusion:** *Apamarga Ksharavarti* followed by *Apamarga Ksharasutra* can be a less invasive & OPD basis procedure for the management of *Nadivrana* with reduced complications and recurrences, resulting in minimal scarring, reduced patient discomfort especially in patients with *Avara Satwa*.

Keywords: *Nadivrana*, *Pilonidal Sinus*, *Apamarga Ksharasutra*, *Apamarga Ksharavarti*, *Jatyadi Taila*.

Introduction

According to *Vagbhatta Nadivrana* is classified into 5 types *Vataja*, *Pittaja*, *Sleshmaja*, *Sannipataja*, *Agantuja/Shaylaja*. *Acharaya Sushruta* has classified into 8 types adding *Dwandwaja* type. *Sannipataja Nadivrana* is said to be *Asadhya* and *Vataja*, *Pittaja*, *Sleshmaja*, *Dwandwaja*, *Agantuja* are *Sadhya*.

The illness closely resembles the condition described as *Agantuja/Shaylaja Nadi Vrana* in the *Sushruta Samhita*. *Acharya Sushruta* proposed a minimally invasive para-surgical procedure for treating *Nadi Vrana*. In the *Visarp-Nadi-Stanaroga Nidana* chapter of the *Sushruta Samhita*, he extensively discussed sinuses or *Nadi*. He warned that ignoring inflammatory swelling during suppuration stage could lead to the formation of chronic granulating tracts, termed as *Nadi*, resembles tubular structures where exudates persist. Neglecting such suppurative swellings without proper *Shalya karma* management may result in recurring chronic sinuses. Additionally, *Acharya Sushruta* emphasized that any foreign body retained in such a chronic granulating tract could perpetuate *Nadivrana* (sinuses), categorized broadly as *Doshaja* (acquired) and *Agantuja* (traumatic/ external causes like foreign body). The recommended treatments for *Nadivrana* include *Varti Prayoga*, *Ksharasutra*, and *Shastra Karma*.^{1,2}

Pilonidal, meaning "nest of hair," is derived from the Latin words- *pilus* (hair) and *nidus* (nest). The term "Pilonidal sinus" was coined by Hodges in 1880 to describe a chronic sinus containing hair found between the buttocks, most prevalent in teenagers and young adults, particularly males. Whether it is acquired or congenital is still debated. The congenital theory suggests cystic remnants of the medullary canal that persist in the Sacro-coccygeal region, leading to dermal inclusion and Pilonidal cyst formation^{3,4}. The acquired theory is supported by cases occurring in various body parts and historical associations like "Jeep Disease" from World War II. Friction forces loose hair into the natal cleft, leading to a foreign body reaction and infection. Surgical management includes incision and drainage, excision with primary closure, excision with healing by secondary intention, and excision with reconstructive flap technique (Bascom's method)⁵. However, post-operative recurrence is high, leading to frequent and time-consuming wound care.

Ksharavarti followed by *Ksharasutra* ligation is an ideal procedure to be adopted for the management of sinus track as it not only debrides the fibrous wall of the track but helps in its curettage. This procedure involves both cutting and healing the tract simultaneously, ensuring no pus pockets remain. This promotes the growth of healthy granulation tissue, facilitating complete healing of sinuses. This approach reduces complications and recurrences while enabling patients to continue the work with less discomfort, less time and lower expenses.

CASE STUDY

A male patient age of 37 years came to Sri Dharmasthala Manjunatheshwara College of Ayurveda & Hospital, Hassan, Karnataka in Shalya OPD with complaints of pimple-like swelling in the natal cleft associated with pus discharge, itching, and pain from one and half months.

POORVA VYADHI VRITTANTA (HISTORY OF PAST ILLNESS)

- Not a known case of Hypertension, Diabetes Mellitus, Thyroid dysfunction.
- Surgical history of Pilonidal sinus excision in 2016 (details were not available with the patient)

SAMANAYA PAREEKSHA (GENERAL EXAMINATION)

- Built: Well built
- General Condition: Fair
- Nutritional Status: Well nourished
- Pallor: Absent
- Icterus: Absent
- Cyanosis: Absent
- Clubbing: Absent
- Lymphadenopathy: Absent
- Oedema: Absent

SAMANAYA PAREEKSHA (VITALS)

- BP: 120/80 mm of Hg
- Pulse rate: 74 bpm, Regular
- Respiratory Rate: 22/min
- Temperature: 97.4°F

SAMSTHANIKA PAREEKSHA (SYSTEMIC EXAMINATION)

- CNS: Conscious, well-oriented to time, place, and person
- CVS: S1 S2 heard, no murmurs present
- RS: Equal air entry to bilateral lung fields, NVBS present, no added sounds present
- P/A: Soft, non-tender, no organomegaly present

STHANIKA PAREEKSHA (LOCAL EXAMINATION)

- Number of sinus openings – an opening present in the sacrococcygeal region (natal cleft), 5-6 cm away from the anal verge
- Site- natal cleft (sacrococcygeal region)
- Primary opening – 2-3 mm
- Discharge –Purulent present
- Edges – edematous and indurated.

SPARSHANA (PALPATION)

- Tenderness – Present
- Discharge – 3-4 drops of pus discharge present
- Local rise in temperature – Present
- Induration – Present around the swelling
- Probing done from external opening and linear track identified, approximately 3 cm in size but could not be traced further.

PRAYOGA SHALA PAREEKSHA (INVESTIGATIONS)

- Hb - 13.4 gm%
- Total count 7200 cells/CMM
- ESR - 14 mm/hr
- RBS – 90.9 mg/dl
- HIV, Hepatitis -B surface antigen non-reactive

VYADHI VINISCHAYA (DIAGNOSIS)

- *Shalyaja/Agantuja Nadivrana* (Pilonidal Sinus)

TREATMENT METHODOLOGY**PURVA KARMA (Pre operative)**

- On OPD basis, vitals recorded.
- Consent taken from the patient for the procedure.
- Under aseptic measures, patient taken to minor OT table in prone position, painting done, local pus drained with *Peedana Karma*.
- Initially, *Apamarga Ksharavarti* kept in the tract through external opening, weekly once, for 2 weeks. (*Ksharavarti* was kept in order to widen the external opening of sinus, which increased to 7-8mm and tract also opened up)

PRADHANA KARMA (Operative Procedure)

- After opening was widened, patient taken to the minor OT table.
- Painting and draping done.
- Local anaesthesia administered.

- Probing done from external opening and tract traced till its blind end and another opening was made over the skin up to the tip of the probe using surgical blade no. 11.
- Probe taken out through created opening with *Apamarga Kshara sutra* and two ends of *Ksharsutra* ligated.
- Dressing done with *Jatyadi Taila*.

PASCHAT KARMA (Post-Operative Management)

Following medication given till the complete healing of the wound:

- Tab. *Nimbadi Guggulu* 500mg BD after food
- *Aragwadadi Kashaya* 15ml-0-15ml before food with luke warm water

FOLLOW UPS

Patient was advised to come for follow up and to get *Ksharavarti* and *Kshara Sutra* changed after every week till *Nadi Vrana* gets healed.
Later, patient was advised to visit for follow up for 6 months (once in a month) to assess recurrence.

OBSERVATIONS

		
Fig.1: On first day (first visit)	Fig.2: <i>Ksharavarti</i> kept in the external opening (first visit)	Fig.3: First follow-up (day 8)



Fig.4: Ksharavarti kept 2 time (on 8th follow up)



Fig.5: Probing done (on 15th day- 2nd follow-up)



Fig.6: Primary threading (On 15th day- 2nd Follow up)



Fig.7: 3rd follow up (impacted hairs from the tract)



Fig.9,10: Ksharasutra ligation done on 21st day (3rd follow up)



Fig. 11,12: 4th follow up





Fig. 13: Ksharasutra changed on 28th follow up)



Fig. 14: On 5th Follow up (35th day), Ksharasutra cut through



Fig. 15: On 6th Follow up(42nd day), wound healed completely.

RESULTS:

- There was marked relief in pain and pus discharge. After application of *Ksharavarti* (2 times), tract became widened. After ligation of *Ksharasutra*, on first visit, impacted hairs came out from the tract. After 35th day, cut through of tract was noted. Wound was completely healed on 42nd day.

DISCUSSION

- Pilonidal sinus is occupational disorder especially who is having a lot of hair around the buttocks and also common in jeep drivers and hair dressers because of continue long sitting posture and profession respectively. There are numerous treatment options available for Pilonidal sinus, with *Ksharavarti* and *Ksharsutra* emerging as promising methods; as it cuts, cures, drains, and cleanses the sinus tract. Although it requires multiple hospital visits yet, it can supersede other treatment modalities as it is a minimally invasive procedure with low complications and recurrence rate. Acharya Sushruta mentioned *Ksharavarti* and *Ksharsutra*, highlighting their effectiveness and success to their healing and cleansing properties, resulting in minimal scarring at the same time it allows the patient to continue their normal activities.
- Ksharavarti* does *Paka* of *Shotha* and reduces the exudate and would help to form the complete tract widened by its properties of *Vishoshana*, *Shodhana* and *Lekhana*.
- Now a days, *Ksharsutra* is becoming more popular and potential modality to treat Pilonidal sinuses and fistulous tracts. It does *Chedana*, *Bhedhana*, *Visravana*, *Shodhana* and *Ropana* of the sinus tract, with the only setback of multiple sittings to the hospital for its change.
- Both *Ksharavarti* and *Ksharsutra* are made up of *Kshara* which is having *Chedana*, *Bhedhana* and *Lekhana* properties so it prevents accumulation of pus and help in continuous drainage leading to

debridement of the sinus tract tissues and would do fibrosis simultaneously and thereby helping in minimizing inflammatory component and help in healing of the *Vrana* (cut through).

- *Nimbadi Guggulu* and *Aragwadadi kashaya* are having *Tikta* and *Kashaya Rasa* which act as *Kapha-Vatahara* (pacify *Kapha* and *Vata*). These two also have proven Analgesic and Anti-Inflammatory properties which help in healing of wounds and ulcers.
- *Jatyadi Taila* is *Tikta* and *Kashaya Rasa Pradhana*, which is *Pitta-Kapha hara Karma* and have *Vranashodhana*, *Vranaropana* and *Vedanasthapana* properties.

CONCLUSION

- The case study demonstrated that *Ksharavarti* followed by *Ksharsutra* procedures are acceptable treatments for Pilonidal sinus, offering advantages in terms of treatment cost, discomfort, impact on body image, and self-esteem. There was no postoperative complication and there is no recurrence and any other complaints.
- Unlike other surgical approaches, which can result in pain while sitting and recurrence, this study shows promise in managing Pilonidal sinus effectively.
- Therefore, it can be concluded that using *Ksharavarti* followed by *Ksharsutra* in the treatment of Pilonidal sinus reduces the incidence of complications and recurrence, allowing patients to return to work and regular social activities promptly. Furthermore, additional research is warranted to solidify this distinct and adapted para-surgical technique as the preferred treatment option for managing Pilonidal sinus.

PREVENTIVE MEASURES

1. Maintain Local hygiene (Sitz bath and hair removal).
2. Diet and lifestyle modification and correction.
3. Weight maintenance.

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