



RESEARCH ARTICLE

MANAGEMENT OF SHALYA NADIVRANA BY KSHARSUTRA W.S.R. TO PILONIDAL SINUS: A CASE STUDY

Dr. Deepti Brijwal^{*1}, Dr. Vishal Verma² and Dr. Sheetal Verma³

¹P.G. Scholar, P.G. Department of Shalya Tantra, Rishikul Campus, Uttarakhand Ayurved University, Haridwar, Uttarakhand, India; ²Associate Professor, Department of Shalya Tantra, Rishikul Campus, Uttarakhand Ayurved University, Haridwar, Uttarakhand, India; ³Associate Professor, Department of Samhita, Sanskrit Evam Siddhanta, Gurukul Campus, Uttarakhand Ayurved University, Haridwar, Uttarakhand, India

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*Corresponding author:
Dr. Deepti Brijwal

ABSTRACT

A chronic condition called Pilonidal Sinus is characterized by a midline pit in the gluteal cleft of the sacrococcygeal, that is usually associated with hairs. commonly found in hairy males. Long periods of sitting, a deep natal cleft, obesity, frequent hair irritation, and family history can all raise the risk of developing the condition. *Acharya Sushruta* classified eight various kinds of sinuses as *Nadivrana* in the context of *ayurveda*. Among these, the pilonidal sinus fits into the category of *Shalyaj Nadivrana* (sinus due to foreign body). The primary adverse effects of surgical treatment include recurrence, post-operative infection, and extensive skin excision that takes a long time to recover. *Kshara Sutra*, a minimally invasive parasurgical technique for *Nadi Vrana* (Pilonidal sinus), has been described by *Acharya Sushruta*. *Kshara sutra* is a type of thread which is coated in a chemical substance made from latex, minerals, and the ash of specific medicinal plants. *Kshara* is having antimicrobial action so chance of infection is very rare. *Kshara Sutra* helps for cutting, curetting and healing of the tract faster. A case report of pilonidal sinus treated at Rishikul Ayurvedic Hospital, Haridwar is discussed here. *Kshara sutra* (prepared with *Apamarga Kshara*), application was done after preoperative procedures and weekly thread change was done till tract was cut through completely followed by dressing. Internally *Triphalaguggulu*, *Triphlanchurna* and *Jatyaditaila* (per rectum) was given. Externally sitz bath daily two times and dressing with betadine gauze. The detail description with photograph will help to understand the procedure.

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INTRODUCTION

Pilonidal sinus illness, often known as "Jeep Bottom" disease, primarily affects young, hairy men in their 20s and 30s. Hodges originally characterized the illness in 1880, and it is identified by the presence of a distinctive epithelial track. It means "nest of hairs," implying that the tract has hair tufts. Sitting causes the buttocks to move and the hairs to break off and gather in the cleft. Pilonidal sinuses typically occur in the postanal region but they may be found in the axilla, the groins and the interdigital web of the hands or feet. Pilonidal sinus is an acquired disease. The congenital origin theory was widely accepted in the past; however, it has since drastically decreased. There are more cases in men than in women and the ratio is 3:1. During sitting, the buttocks move, and hairs break off due to friction and collect in the cleft. These loose hairs either enter the open mouth of a sudoriferous gland or travel down the intergluteal furrow to penetrate the soft and moistened skin at that area. Dermatitis and inflammation begin around the loose hairs, and once the sinus is formed, intermittent negative pressure of the area may suck other loose hairs into the pit. This type of sinus is lined by stratified squamous epithelium and extends into the subcutaneous tissue. Pilonidal sinus can present acutely as a pilonidal abscess, when this abscess resolves, many patients will develop chronic disease as one or

more small dermal sinus (pits) at the base of intergluteal cleft associated with induration, tender, erythematous, draining pus and from its mouth a tuft of hairs protrudes. Recurrent infections are often associated with pain and discomfort, and secondary apertures may be on either side of the main sinus. Several methods of treating pilonidal disease have been tried, including as shaving, incision and drainage, phenol application, cryosurgery, primary closer excision, open packing excision, flap surgery, and marsupialization.¹

Nadivrana: *Acharya Sushruta*, has given detailed description in 10th chapter of *Sushruta Samhita Nidana Sthana* regarding the *Nadi* or sinus in the chapter of *Visarpanadistanaroganidana*. The disorder known as *Nadi vrana* is brought on by improper or careless management, which causes the *Vrana* to progress into chronic stages. When a developed abscess is improperly incised and drained, and the patient consumes inappropriate meals, the pus that remains inside the ulcer and travels into the muscles, etc., creates a long-distance network of pus-filled channels (sinus) inside them.² Furthermore, according to *Acharya Sushruta*, the persistence of (sinus) *Nadivranas*, which are generally classified into two types-*Doshaj* (acquired) and *Agantuja* (traumatic), will also be caused by any retained or concealed foreign body in such a chronic processing tract of discharging

character. Surgical techniques are typically focused on removing the sinus tracks followed by healing of a wound by primary intention.³

Properties of Ksharasutra: If the patient is unwilling to have surgery (I&D), *Shalyajanadivra* can be performed by using a probe to enter the tract, clean it, then introduce a medicated thread (*Kshara-Sutra*). This process can be repeated until the tract is clear.⁴ If an ulcer is present in vital organs and the patient is thin, feeble, and afraid, a wise doctor should use *Kshara-Sutra* to open the sinus rather than sharp tools.⁵

Properties of Kshara: It is called *Kshara*, since it destroys (the vitiated tissues and make them fall off) or since it torments the tissues.⁶ Among the *Shastra* (sharp instruments) and *Anusastra* (accessory instruments), *Kshara* (caustic alkali) is the most significant since it may be utilized in certain ways and performs actions like excision (removal), cutting (division), and scraping.⁷

Preparation of Kshara Sutra: The *Ksharasutra* preparation is done with Barbour's surgical linen thread number 20.

- *Snuhiksheera* (*Euphorbia nerifolia*) – 11 coatings
- *Snuhi* and *ApamargaKshara* (*Achyranthus aspera*) – 7 coatings
- *Snuhi*, *Apamarga* and *Haridra* (*Curcuma longa*) – 3 coatings

After every coating, let the sutra dry in a *Ksharasutra* chamber.

Mode of action of Ksharasutra

- PROMOTES in the cutting, curing, draining, and healing of the tract.
- Provides therapeutic debridement by minimizing slough or tissue debris.
- Offer a strong platform for recovery.
- Encourages healing by preventing the fibrotic process.
- It has antimicrobial action by which, it controls infection.

Assessment Criteria

1. Unit cutting time (UCT)
2. Pain
3. Discharge
4. Size of wound

$$\text{UCT} = \frac{\text{Total no. of days taken to cut through the tract}}{\text{Initial length of the Kshara sutra}} = \text{Days/cm}$$

Unit cutting time (UCT) is the amount of time (in days) required to cut one centimetre of the track while healing at the same time.

CASE REPORT

A male patient of 38 years old driver visited *Shalya Tantra* OPD, Rishikul Ayurvedic Hospital OPD with complaints of pain, swelling and pus discharge from natal cleft from 6 months. Pus was thick and yellowish in colour. So, he went to Government hospital in Dehradun (UK). Where the doctor diagnosed him with pilonidal sinus and advised him with for operation. But he refused for operation and took antibiotics with anti-inflammatory medicines for 1 month. After some time, he got symptomatic relief. Gradually, he again developed boil in natal cleft.

H/O Past illness - There is no H/O Hypertension, Diabetes mellitus, thyroid, tuberculosis and any other chronic disease.

Personal history - Patient had good appetite, bowel habit, sleep, not any kind of addiction. Blood pressure, pulse rate, and respiratory rate was in normal limits.

Local Examination

Local examination was done in prone position of patient, the findings were –

- ✓ A small pit was present at the sacrococcygeal region with pus discharge and mild tenderness.
- ✓ During Palpation, the cord like induration was present at the external opening.
- ✓ During probing 5 cm tract was found.
- ✓ Routine blood and urine examination were done and the report was normal. There was no H/O any other systemic illness.

Diagnosis The final clinical diagnosis made was *Shalyaj Nadivra* i.e. Pilonidal sinus. After explaining the aspects of the illness and how to treat it, the patient was scheduled for *Kshara Sutra* therapy under local anaesthesia as a daycare surgery.

Procedure

Preoperative

- Written consent was taken before the procedure.
- Part was prepared.
- Inj T.T. 0.5 ml IM given.
- Inj Lignocaine sensitivity 2% 0.5ml SC given.
- Soap water enema given at 10 PM and 6 AM.

Operative Procedure: Patient was lied down in prone position. Proper cleaning and draping of operative site were done by betadine solution. Local anaesthesia with (2% xylocaine) was infiltrate nearby gluteal cleft and the surrounding area. Probing was used to assess the track's extension, and the imbedded hair follicle was removed, then pus was drained out. A second opening was created over the skin up to the probe's tip after probing and tracking the tract to its blind end. The probe was then taken out through a second opening. Tract cleaned with betadine solution or normal saline. The *Kshara-sutra* embedded probe went through the aperture. *Kshara-sutra* was inserted undamaged, with both ends properly tied. After achieving haemostasis, pressure bandaging was applied.

Post Operative

- Sitz bath with lukewarm water twice a day before dressing and kept continue to *Triphala Guggul* 2 BD, *Triphala Churana* 5 gm HS with lukewarm water and *Jatyadi Taila* for LA.
- Patient is advised to take high fibre rich diet, avoid spicy and oily food.

Follow up

- The patient was advised to change their *Kshara-sutra* every seventh day (7th).
- In 7 sittings (49 days) the tract was totally cut by *Kshara-sutra* and healing of wound was achieved. After cut through patient was advised to take only *Triphalachurana* 5 gm HS and *Jatyadi Taila* for LA for 15 days.
- After cut through patient is advised to visit after 15days and after 2 months.

DISCUSSION

These days, there are a lot of different ways to treat pilonidal sinuses, and *Kshara-sutra* is showing increasing potential in this context. The cutting, curing, draining, and cleaning of the sinus canal are accomplished by the mechanical and chemical action of medication-coated thread; nevertheless, this procedure is time-consuming and requires recurrent hospital visits for *Kshara-sutra* changing.



Fig. 1. Before procedure



Fig. 4. After Cut through



Fig. 2. Placing Kshar sutra



Fig. 3. After 3 weeks

In *Nadivra Chikitsa*, Acharya Sushruta makes reference to *Kshara-sutra* treatment in antiquity. *Kshara-sutra* is a minimally invasive technique that shows potential in treating Pilonidal sinus. It is more widely recognized as a minimally invasive, economical, and recurrence-resistant treatment. *Kshara-sutra* is a medicinal thread made using herbal caustics such as *Haridra* (turmeric), *Apamarga Kshara*, and *Snuhilatex*. The process of chemical cauterization aids in the debridement of diseased tissue. It encourages the tract to be sliced gradually and carefully.

The medications' antibacterial and restorative qualities promote the development of healthy granulation tissue and guard against recurrent infections. As a minimally invasive process, *Kshara sutra* therapy can be administered as a day care procedure to the majority of patients. It keeps pus from building up in the track by making sure that constant drainage lyses harmful granulation tissue. It ensures early healing by producing fibrosis concurrently with the cutting and reducing inflammatory components.

CONCLUSION

Kshara Sutra therapy, an ancient Ayurvedic technique, has shown promising results in the management of pilonidal sinus. Its minimally invasive nature, less blood loss, combined with its ability to promote effective drainage, debridement, and healing through controlled chemical cauterization, makes it a viable alternative to conventional surgical methods. Clinical observations suggest that *Kshara Sutra* treatment results in reduced recurrence rates, shorter recovery times, and minimal post-operative complications when compared to traditional excision procedures. However, the success of the therapy depends on proper case selection, patient compliance, and skilled application. In this case study the *Shalyajnadivra* Pilonidal sinus was completely cured in 49 days (7 weeks) and there was no recurrence till now.

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