



# **A Successful Management Of Pilonodal Sinus (Nadi Vrana) With Paribhadra Ksharasutra – A Single Case Study.**

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## **ABSTRACT**

A Pilonidal sinus (PNS) is a disease that most commonly arises in the hair follicles of the natal cleft in the sacrococcygeal area and can cause discomfort, embarrassment and absence from work. It is more common in men (as they have more hair) than in women. Pilonidal Sinus has become a challenge to most of the surgeons due to its recurrence. This is commonly found in drivers and in sedentary workers. Due to constant sitting there is exertion on post anal region where the pits pull the hair inside the body to cause pilonidal Sinus. The most commonly used surgical techniques for this disorder include excision and primary closure, excision with reconstructive flap. However the risk of recurrence of developing an infection of the wound after operation is high. Also, the patient requires longer hospitalization and the procedure is expensive. There is a similarity between Shalyaja Nadivrana described in Sushruta Samhita and Pilonidal sinus. Acharya Sushruta has advocated a minimally invasive para-surgical treatment i.e, Ksharasutra procedure for Nadi Vrana. This treatment not only minimizes the complications and recurrence but also enables the patient to resume to the work quickly with less discomfort, as well as reduced cost. The patient attended Shalya Tantra OPD of Taranath Government Ayurvedic Medical College and Hospital, Ballari was treated with the Paribhadra Kshara Sutra. The patient recovered well with complete excision of the tract within span of seven weeks.

**KEY WORDS:** Shalyaja Nadivrana, Paribhadra Ksharasutra, Pilonidal sinus.

## INTRODUCTION

Pilonidal sinus is a common condition, the term is derived from a set of Latin words “pilus” meaning hair, and “nidus”, meaning nest. It is popularly known as “Jeep Riders Disease”<sup>1</sup>. Pilonidal sinus is an acquired disease. Formerly, the theory of congenital origin was very popular but now a day it has greatly declined. It is epithelium lined tract, situated short distance behind the anus, containing hairs and unhealthy diseased granulation tissue. It develops due to penetration of hairs through the skin into subcutaneous tissue. It forms unhealthy granulation tissue in the deeper plane. The most important predisposing factor for the development of Pilonidal sinus are the existence of deep natal cleft and the presence of hair within the cleft. A deep natal cleft is a favourable atmosphere for maceration, sweating, bacterial contamination and penetration of hairs<sup>2</sup>. Thus, for treatment and prevention, these causative factors must be eliminated. Pilonidal sinus has three common representations. Nearly all patients have an episode of acute abscess formation. When this abscess resolves, either spontaneously or with medical assistance, many patients will develop chronic disease or recurrent disease after treatment. On examination typically reveals one or more small (1-2mm) dermal pits at the base of intergluteal cleft. Tracking from the pits (usually in cranial and lateral direction) will appear as an area of induration. With an associated abscess, the diseased area may be tender and erythematous, and draining pus may be evident. The more extensive the disease, the more prominent the findings. Commonly performed operations are complete excision with primary suture, complete excision without skin suture, laying open of the tract with marsupialization of wound<sup>3</sup> etc. Different forms of surgical techniques for pilonidal sinus have been advocated, but none of them provide good results, as the post-operative recurrences are very common.

## NADIVRANA

Improper management or negligence of management will lead the Vrana into chronic stages, that condition is known as Nadi Vrana. Improper incision and drainage of a ripened abscess and at the same time indulging in unsuitable foods by the patient, the pus retained inside ulcer and entering into the deeper tissues produces a tubular pathway of pus/channels inside them resulting in Nadi Vrana<sup>4</sup>.

## Treatments in Ayurveda

- Chedana (Incision)
- Shalya Nirharana (Removal of foreign body- hairs, pus, etc.)
- Margashodhana (Cleaning the tract)
- Ropana (Wound healing)<sup>5</sup>.

## Preparation of Paribhadra Ksharasutra

| Paribhadra Kshara Sutra           | Coatings |
|-----------------------------------|----------|
| Snuhi Ksheera                     | 11       |
| Snuhi Ksheera + Paribhadra Kshara | 07       |
| Snuhi Ksheera + Haridra Churna    | 03       |
| Total                             | 21       |

## CASE STUDY

A male patient of 26 years of age with the complaints of pain, swelling, discharge from natal cleft from 3 months. Patient had a history of same complaints 1 year ago so he visited a nearby hospital and there he was diagnosed with Pilonidal sinus and they suggest him for operation. Patient was not willing for the operation, after 15days his complaints became severe, then he visited our hospital for further treatment. Patient had no history of bleeding per rectum or painful defecation or mucus or any kind of discharge through anus. There is no history of Diabetes mellitus, Hypertension, Tuberculosis, etc. Patient had good appetite, bowel habit, sleep, not any kind of addiction. Blood pressure, pulse rate, respiratory rate was in normal limits.

### Local Examination

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

#### Inspection:

Patient was hairy and had a small opening at mid gluteal cleft with good amount of hair nearby.

#### Palpation:

A cord like indurated structure was felt at the opening of sinus.

Mild tenderness.

Watery discharge was present while palpation of local site.

There was no any other opening or any lump near or in gluteal cleft.

#### Probing

Probing was done from the opening to accessed branching and extension of the tract.

About 7cm tract was found during probing in mid gluteal cleft.

By complete thorough examination the diagnosis was confirmed as pilonidal sinus.

All routine blood investigations were done. All situations about disease and its management were explained to the patient and finally planned for Ksharasutra therapy under local anaesthesia as day care procedure.

**PROCEDURE:****PRE- OPERATIVE PROCEDURE:**

- Informed and Written consent taken.
- Vitals were monitored.
- Part preparation done.
- Inj. XTD 0.2ml test dose given.

**OPERATIVE PROCEDURE:**

- After taking all aseptic precautions, patient was taken in prone position to perform the application of Ksharasutra.
- Ksharasutra procedure was performed under local anaesthesia. The malleable probe was inserted gently into the tract and was assessed by means of probe.
- The probe was pushed inside the tract till the tip of the probe was felt by the finger and then tip of the probe was taken out through an secondary opening at the other end of Pilonidal sinus.
- Then Ksharasutra was threaded in the eye of the probe.
- The probe was gently taken out in such a manner that the entire sinus tract was threaded by Ksharasutra.
- During this procedure, tuft of hair was seen to come out of the pilonidal sinus tract along with foul sero-purulent discharge.
- After that, the two ends of the Ksharasutra were ligated outside.
- Then operated area was washed with normal saline and bandaged with cotton pad.

**POST-OPERATIVE CARE:**

- Patient was advised to do his routine work after surgery.
- Patient was instructed to do sitz bath with lukewarm water twice a day for 10 to 15 mins and to keep the operated area clean and dry.
- The Ksharasutra was changed weekly by rail road technique and length were measured and recorded.
- The thread was changed weekly because the thread act as an ideal media for drug delivery in the minute channel and further presence of thread in the tract keeps it patent for 7 days enabling the infected material to drain out, which is essentially required for healing of Pilonidal sinus.

**OBSERVATIONS AND RESULTS:**

| Symptom           | 1 <sup>st</sup> day | 7 <sup>th</sup> day | 14 <sup>th</sup> day | 21 <sup>st</sup> day | 28 <sup>th</sup> day | 35 <sup>th</sup> day | 42 <sup>nd</sup> day |
|-------------------|---------------------|---------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| Pain              | Severe              | Severe              | Moderate             | Mild                 | Mild                 | Mild                 | No pain              |
| Discharge         | Profuse             | Moderate            | Moderate             | Mild                 | No discharge         | No discharge         | No discharge         |
| Length of a track | 7cm                 | 6cm                 | 4cm                  | 3cm                  | 1.5cm                | Cut through          | 0                    |

$$\text{Unit Cutting Time} = \frac{\text{Total No. of days taken to cut through the track}}{\text{Initial length of the Ksharasutra in cm.}}$$

$$\text{UCT} = 35/7 = 5\text{days/cm}$$

Time taken (in days) to cut one centimetre of the track with simultaneous healing is known as unit cutting time (UCT).

BEFORE TREATMENT

AFTER 2<sup>ND</sup> SITTING

PROBING

AFTER 4<sup>TH</sup> SITTING

PRIMARY THREADING



AFTER TREATMENT



## DISCUSSION

Acharya Sushruta has described Baala as one of the Shalya and it is the main reason for the Pilonidal sinus disease. In this case, Patient is obese with deep natal cleft and he is having the habit of riding the bike regularly. Because of overweight, there is a chance of friction of hairs between gluteal regions. Improper cleaning of anal region after defecation and excessive sweating of this particular area may be contributing factor for this condition.

There are so many modalities are available in the management of Pilonidal sinus. Now a days Ksharasutra is becoming more potential to treat Pilonidal sinus. The Kshanana and Ksharana<sup>6</sup> properties of Kshara cuts Pilonidal sinus tract from inside gradually and initiate simultaneous healing. The Ksharasutra acted as good drainage for the wound. Ksharasutra have alkaline Ph so it possesses desloughing property. Collectively ksharasutra act as simultaneous cutting and healing process. So the healing was good because no collection remain in the wound site.

### PROBABLE MODE OF ACTION OF KSHARASUTRA:

Ksheera used in the preparation of Ksharasutra produces debridement of tissues by the presence of proteolytic enzymes present in it which act in acid media only. The moment the Kshara is added to it, the proteolytic action ceases since the Kshara is highly alkaline. But because of its alkalinity, it overpowers the action of Ksheera thereby, there will be quick debridement due to high concentration of Kshara. The Haridra churna added to it possess antiseptic property and antihistamine property. The presence of Ksharasutra in the pilonidal sinus does not allow the cavity to close down from either ends and there is a continuous drainage of pus along the Ksharasutra itself.

### PROBABLE MODE OF ACTION OF PARIBHADRA KSHARA SUTRA

Paribhadra is a drug having qualities like Katu Tikta rasa, Laghu guna, Ushna veerya, Katu vipaka and in Kshara form even it attains the quality of Chedana, Bhedana and Lekhana. Because of the Ushna Virya, it possesses the property of alleviating the Kapha and Vata<sup>7</sup>. In the Kshara form, due to the extra qualities of Lekhana it helps in eradicating Dushitha Mamsa and enhances healing.

## CONCLUSION

The modern surgical treatment of Pilonidal sinus is often unsatisfactory. In majority of cases, recurrences are common after surgery. Ksharasutra is safe, cost effective and minimally invasive procedure, promotes healthy healing with negligible recurrence rate. Management of Pilonidal sinus with Paribhadra Kshara Sutra is found to be very effective, and can be successfully used as a curative measure in cases of Pilonidal sinus.

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