



Ksharasutra - A Boon For Shalyaja Nadvrana (Pilonidal Sinus) In Young Boy – A Case Study

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Abstract: Pilonidal sinus is a chronic disorder mainly seen in the sacrococcygeal region, especially in young males. Different surgical methods have been described for this disease such as Excision and primary closure and excision with reconstructive flap. However the risk of recurrence of developing on infection of the wound after operation is high. Among eight types of *Nadi Vrana*, *Shalyaja Nadi Vrana* can be considered as pilonidal sinus as '*Bala Shalya*' (hair) is an important factor in causing the *Shalyajanya Nadi Vrana*. *Acharya Sushruta* has advocated a minimal invasive parasurgical treatment viz. *Apamarga Ksharasutra* for Pilonidal sinus (*Shalyaja Nadvrana*) which helps in removing the unhealthy tissues and promotes healing. Hence this procedure was done for 17 year old boy with pilonidal sinus. *Apamarga Ksharasutra* was changed by rail road method till the complete cutting of the tract. Assessment of pain, pus discharge, itching, tenderness and length of the sinus tract was done in every follow up. The tract showed complete closure by 4 weeks, with no recurrence. This treatment is not only minimizing complication, but also enables the patient to resume work quickly and with less discomfort. Over time, the healthy tissues regenerate, and the tract gradually closes and heals.

Keywords - Pilonidal sinus, *Shalyaja Nadvrana*, *Apamarga Ksharasutra*, Case Study

INTRODUCTION

The term pilonidal sinus describes a condition found in the natal cleft overlying the sacrum and coccyx, having one or more midline openings, which communicate with a fibrous track lined by unhealthy granulation tissue and containing theft of hair within the lumen¹. It can also be seen in umbilicus, axilla, also sometimes in interdigital web space of a hair dresser. The disease mostly affects men, in particular hairy men². Recurrence is common, even though adequate excision of the track is carried out.

Incidence observed were 26 cases per 1, 00,000 affecting males twice as much as females³, and is most common in young adults after puberty and before the fourth decade of life and is characteristically seen in dark haired individuals rather than those with softer blond hair⁴. Men are thought to be at higher risk because of their hirsute nature. Pilonidal sinus is also associated with obesity having deep natal cleft (37%), sedentary occupation (44%) and local irritation or trauma (34%)⁵.

It is an acquired condition with acute or chronic inflammation developed due to combination of buttock friction and shearing forces in that area allows to shed hair which are collected in natal cleft or infection in relation to hair follicle allows hair to enter the skin by the negative pressure due to movement of buttocks, therefore creating a subcutaneous, chronic infected, midline track known as primary sinus, from which secondary track spreads laterally which may emerge at the skin as granulation tissue with discharging openings⁶. Usually there will be recurrent infection causing pilonidal abscess which bursts open forming recurrent sinus with throbbing or intermittent pain, purulent or sero sanguinous discharges and discomfort which may affect daily activity.

The management of pilonidal disease depends on its presentation and ranges from simple incision and drainage to a wide excision with extensive reconstructive procedures like z plasty, V- Y gluteal advancement flap, excision and skin grafting etc⁷. These procedures need prolonged hospitalization and chances of recurrence are more frequent. Despite a range of treatment modalities, tremendous advances and development in modern surgery the options are limited to their effectiveness and prognosis is also not satisfactory.

In *ayurveda* Pilonidal sinus can probably be correlated to *Nadi Vrana*, where 'Nadi' implies tract and 'Vrana' is the ulcer. So an ulcer or *vrana* which is having a tract (*nadi*) can be named as *Nadi Vrana*. Among eight types of *Nadi Vrana*, *Shalyaja Nadi Vrana* can be considered as pilonidal sinus as 'Bala Shalya' (hair) is an important factor in causing the *Shalyajanya Nadi Vrana*⁸. *Acharya* has also given numerous minimally invasive treatment approaches which includes *Pratisaraneeya kshara karma*, *Kshara sutra karma*, *Chedana*, and *Bhedana*.

Kshara sutra is one of the best sought methods of treatment for *Nadi vrana*⁹. The *Ksharasutra* works through various mechanisms to treat Pilonidal sinus. The *Ksharasutra* has smearing of *Haridra*, *Apamarga Kshara* to assist every stage of healing. The *apamarga kshara* in *Ksharasutra* helps in debridement of the Pilonidal sinus tract, removing the unhealthy tissues and promotes healing. The other ingredients *Snuhi* and *Haridra* have antimicrobial properties, which help in reducing infection, inflammation and pain. The *Ksharasutra* also acts as a draining medium, allowing any accumulated pus or fluid for adequate drainage. Over time, the healthy tissues regenerate, and the tract gradually closes and heals.

CASE STUDY – Primary Details of the Patient

Age/sex	17 years/Male
Address	Hubli
OPD No.	1188
IPD No.	57
Occupation	Student
Marital status	unmarried
Socioeconomic status	Middle Class

Chief Complaints

A 17-year-old male approached our hospital with complaints of Swelling associated pain and pus discharge from the sacrum region, with intermittent fever since 2 month.

History of Present Illness

Patient was apparently healthy 2 months back, and then he noticed swelling on gluteal natal cleft associated with pain and pus discharge with foul smell. He had history of repeated boils in the natal cleft region. For which he consulted nearby doctor and took conservative management.as he did not get complete relief and condition recurred therefore he came to our hospital for further treatment.

History of past illness

No H/O Diabetes, hypertension, thyroid disorder or any other medical disease.

Surgical History – Underwent Circumcision surgery 8 years back

Family History - Nothing significant

Personal History

- Appetite - Good
- Bowel - One time/day
- Micturition - 4-5 time a day
- Sleep - Disturbed
- Diet - Veg
- Habits - No any

Examination of the Patient

General examination

- Pallor : Absent
- Icterus : Absent
- Cyanosis : Absent
- Clubbing : Absent
- Oedema : Absent
- Lymphadenopathy: Absent

Vitals

- Blood Pressure : 110/70 mm of Hg
- Temperature : Afebrile, 96.2°F
- Pulse Rate : 84bpm
- Respiratory Rate : 16 cycles/min

Local Examination

INSPECTION

- Position : Natal cleft, single pit with serous discharge in mid sacrococcygeal region.
- Surrounding skin: Whitish red in colour

PALPATION

- Tenderness : Present
- Induration : Present
- On pressure with finger, purulent discharge was escaped from opening.

EXAMINATION WITH PROBE

- During the probe insertion the direction and length of the primary sinus track was assessed. It showed an external opening but there wasn't any secondary track away from midline sinus.

Digital rectal examination - Normotonic anal sphincter.

Proctoscopy – No any abnormality was detected

DIAGNOSIS - PILONIDAL SINUS (SHALYAJA NADI VRANA)

Treatment advised - *Ksharasutra* ligation

INVESTIGATIONS:-

Hb%	15.0gm %
RBS	109 mg/dl
HIV	Negative
HBsAG	Negative
Blood Group	'B positive'
Bleeding time	1min 40 sec
Clotting time	3min 20 sec
Urine - Sugar	Nil
- Albumin	Nil
- Microscopy	NAD

MRI of PELVIS (Dated 03/05/2024)**Impression**

- Sinus tract in subcutaneous location at lower sacrum and coccyx region reaching up to periosteum, collection in inner aspect of the tract.
- Features suggestive of Pilonidal Sinus with small abscess.

Purva karma:

- Written informed consent was taken for procedure
- Part preparation was done.
- Inj. Xylocaine 2% 0.2 cc (test dose) was given intra-dermally.
- Inj. T.T 0.5 cc was given intramuscularly.

Pradhana karma:

- Patient was taken to operation theatre and spinal anaesthesia was given, and made to lie in dorsal position
- Part was painted with betadine solution followed spirit and draping of the part was done with sterile sheet.
- Intra-operatively, a syringe with Betadine solution was injected through the external opening to see if there was any connection with the anal canal. It was seen that the solution was coming from the natal cleft which confirmed a diagnosis of Pilonidal Sinus and not fistula in ano.
- Probing was done to the sinus track starting from the opening having discharge and wider opening (may be primary opening at midline of natal cleft) till the resistance was felt, then an artificial opening was made over the skin at the site of resistance thus making the sinus having two openings.
- The theft of hair was removed from the sinus lumen.
- Sinus track was irrigated with hydrogen peroxide followed by betadine solution and to ensure no remnant of hair were left.
- *Apamarga ksharasutra* was taken and threaded into the eye of probe. Then probe was pulled out through the other opening thus leaving *Apamarga ksharasutra* in the tract. The two ends of the *ksharasutra* were then tied together with a moderate tightness.
- After complete hemostasis the wound was packed tightly with gauze soaked in *Jatyadi Taila* and dressing was done.

Paschat karma:

- Patient was advised to take *Panchavalkala avagaha sweda* followed by application of *jatyadi taila*.

Follow Up

- On the seventh day onwards weekly once *Apamarga Kshara* sutra was changed by rail road technique.
- Patient was advised to attend his normal duty during the treatment period.
- Internal medication - *Triphala guggulu* 1 TID
- Locally - *Panchavalkala avagaha sweda* Twice daily
- *Jatyadi Taila* application

DISCUSSION

- Pilonidal sinus is a challenging condition wherein surgeons mainly face difficulties like wound healing and post-operative recurrence. Different treatment methods for pilonidal sinus ranges from conservative, non-surgical approach to extensive surgical procedures with full thickness flaps techniques. The ideal treatment of pilonidal sinus remains a controversial. The ideal surgery should be simple, with short hospital stay, have a low recurrence rate, associated with minimum pain and wound deformity.
- *Acharya Sushruta* mentions about the disease "*Shalyaja nadi vrana*" which is similar to Pilonidal sinus and advocated the use of *Kshara sutra* as management principle. The *kshara sutra* helps in debridement and lysis of tissue with antibacterial, anti-fungal and anti-inflammatory action. The *Ksharasutra* acts as good drainage for the wound. *Ksharasutra* has alkaline pH so it possesses de-sloughing property. The action of the *Kshara Sutra* is believed to be multi-factorial. The *Apamarga Kshara* applied to the thread acts as a caustic agent, promoting the cutting and draining of the tract. It

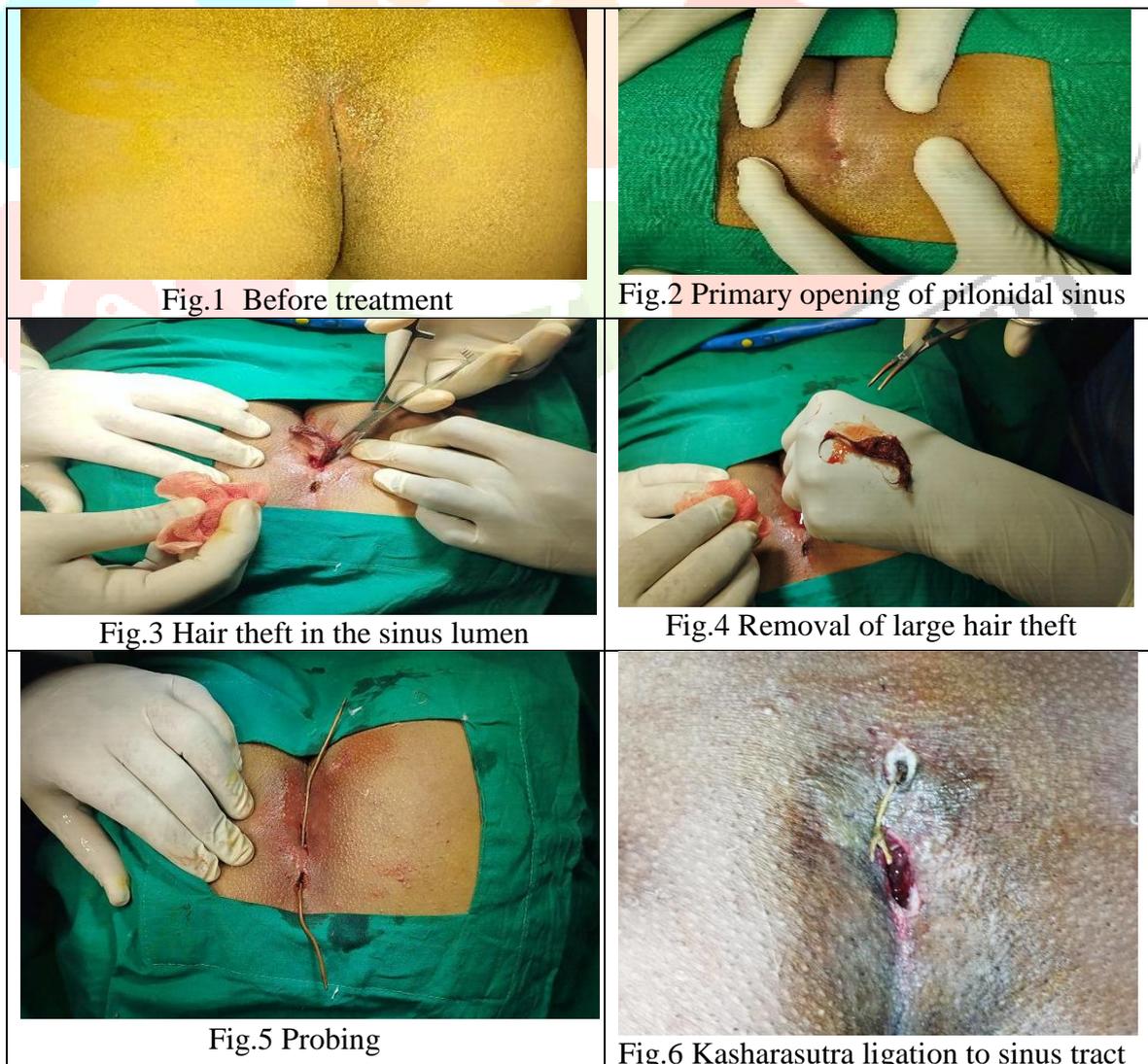
also helps in destroying infective or necrotic tissue and stimulating the healing process. *Apamarga Ksharasutra* treatment has several advantages, including minimal invasion, lower recurrence rates compared to conventional surgical methods, and faster healing with minimal discomfort.

- In post-operative *Triphala Guggulu* containing *Emblica officinalis*, *Terminalia chebula*, *Terminalia bellerica*, *Piper longum*, and *Commiphora mukul* having anti-inflammatory and microbicidal properties of was helpful for *Vranashodhan*. Once the granulation tissue formation takes place, *Vranaropana* drug like *Panchavalkala* for *avagaha sweda* and *Jatyadi Taila* was used for wound dressing to minimize the wound infection and accelerate wound healing by reducing microbial load.

CONCLUSION

- For uncomplicated or recurred pilonidal sinuses after repeated surgeries, *Apamarga Ksharasutra* ligation is a safe and highly effective procedure. It is easy, simple, less interfering, reducing hospital stay, quick healing, allowing early resumption of the work by patient with nil or very minimal recurrence rate.
- It can be a better alternative to all current standard procedures. It has very less or no adverse effects. It is found to be very cost effective. It can also be done on OPD basis.
- The field of *Ayurvedic* medicine, including *Ksharasutra* treatment, continues to evolve with ongoing research and advancements. Newer techniques, modifications in the *Kshara* composition, and further understanding of the mechanism of action may lead to improvements in outcomes and patient care.

PICTURES:-





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