



## Case Study

### MANAGEMENT OF *SHALYAJ NADIVRAN* BY MODIFIED *KSHARASUTRA* W.S.R. TO PILONIDAL SINUS

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**KEYWORDS:** Pilonidal sinus, *Shalyaj Nadivrana*, *Ksharasutra*, Sushruta.

#### ABSTRACT

Pilonidal sinus is a disease that most commonly arises in the hair follicles of the natal cleft of the sacrococcygeal. Incidence is more common in men as they are hairier than women. The factor which increases the risk of pilonidal sinus is continuous sitting, obesity, sedentary occupation, family history, local trauma. The surgical management commonly practiced are included incision and drainage, excision and primary closure, excision and healing by secondary intention, excision with reconstructive flap technique (Bascom's method). However, the risk of recurrence or of developing an infection of the wound after the operation is high. In Ayurveda as clinical features, the pathology of Pilonidal sinus and *Shalyaj nadivrana* described in *Sushruta Samhita* are very much similar to each other we can correlate with *Shalyaj* type of *Vrana* with Pilonidal sinus. Sushruta has explained *Shastrakarma* with the intervention of '*Ksharasutra*' procedure for the management of *Nadi vran* (PNS). This case study was presented on a male patient aged 39 years. He was suffering from pilonidal sinus for 9 months and treated successfully with partial sinus excision along with *Ksharasutra* therapy. Partial sinus excision followed by *Ksharasutra* ligation in the remaining intact tract was performed under local anaesthesia. The *Ksharasutra* was changed weekly for 3 sittings. Observation revealed that sinus track cut through and healed by 5 weeks. The patient was under observation for one year to check for recurrence. *Ksharasutra* treatment not only minimizes complications and recurrences, causing minimal scar but also facilitates the patient to resume early working with less discomfort as well as reduced time and cost.

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#### INTRODUCTION

Pilonidal means nest of hair and is derived from the Latin words for hair (pilus) and nest (nidus). The term "Pilonidal sinus" was invented by Hodges in 1880, to describe the chronic sinus containing hair found between the buttocks. It is most common in teenagers and young adults. The cases are more in males as compare to females with a ratio of 3:1. Whether it is an acquired or congenital disease is still debatable. The congenital theory for pilonidal sinus was more popular after understanding of the embryological study. It was thought that cystic remnants of the medullary canal persist in the Sacro-coccygeal region, this faulty development of the median raphe in this region

leads to dermal inclusion which becomes Pilonidal cyst. According to this theory, these cysts should be lined by cuboidal, and not, squamous epithelium as seen in all cases. The acquired theory is supported by finding the condition occurring in the other parts of the body e.g. between the fingers in barbers, in the axilla, perineum, and on a mid-thigh amputation stump and even in the Umbilicus. In World war-II this condition was known as 'Jeep Disease' and was felt to be from sitting for a long period in Jeep vehicles. This predisposes hair ends to be pushed into neighbouring hair follicles and to initiate a 'Foreign body' reaction. The resulting abscess would rupture having a painful draining sinus.<sup>[1,2]</sup>

Loose hair, leading with the root end, collect in the natal cleft. Friction forces the hair to insert at the depth of the cleft, not at the sides, with the insertion of one hair, others can more easily follow provoking the foreign body reaction and infection of pilonidal disease. It is felt that the primary sinus is the portal of entry of the hair and the secondary sinus is the portal of the hair exit. Pilonidal sinus occurs in the natal cleft (cleavage between buttocks) causing discomfort, embarrassment, and absentia from work in young hairy men. It is the chronic Pilonidal disease that needs an eradicated surgery aimed at eliminating the disease process, which is acceptable to the patient with no complications, recurrence, and early resumption of normal work and social activities. The surgical management commonly practiced are included incision and drainage. Excision and primary closure, excision and healing by secondary intention, excision with reconstructive flap technique (Bascom's method).<sup>[3]</sup>

In Ayurveda, the science of life is the natural healing system of medicine. Out of eight branches of Ashtanga Ayurveda, Shalya tantra is considered to be superior most because of its being radical in removing the Shalya (foreign body) which are denied to other branches. The disease clinically simulates with *Shayla nadi vrana* described by Sushruta Samhita. Acharya Sushruta has mentioned a minimally invasive Para surgical procedure for *Nadi vrana*.<sup>[4]</sup>

Acharya Sushruta, the father of surgery has given detailed description in detail regarding the *Nadi* or sinus in the chapter of *Visarpa nadi stanaroga nidana* (10<sup>th</sup> chapter of Sushruta Samhita *Nidana Sthana*). He recommended that if inflammatory swelling is ignored even during these stages of suppuration then it may result in chronic granulating tract & is termed as *Nadi* which is like a test tube, the exudates remain in movement therein. Moreover, if such suppurative swellings are neglected and not managed properly by *Shalya karma* in good time it will be responsible for the persistence of chronic *Nadi* (sinus).<sup>[5]</sup>

Besides, Acharya Sushruta has advocated that any retained or hidden foreign body in such a chronic granulating tract of discharging nature will also be responsible for the persistence of (sinus) *Nadivranas* broadly of two types viz., *Doshaj* (acquired) and *Agantuja* (traumatic). Surgical methods generally emphasized as excision of the sinus tracks followed by healing of a wound by primary intention.<sup>[6]</sup>

The risk of recurrence or of developing an infection of the wound after the operation is high. Taking this into consideration *Ksharsutra* ligation in

pilonidal sinus was studied clinically by *Ksharsutra* therapy successfully. Hence, this is an ideal procedure to be adopted for the management of sinus track as it not only destroys the fibrous wall of the track but helps in its curettage. There are simultaneous cutting and healing of the tract and no pocket of pus is allowed to stay back. Thus, it provides an environment for healthy granulation tissue to develop providing an avenue for *Nadivrana* (sinuses) to heal completely. It minimizes complications and reoccurrences but also facilitates the patient to resume early working with less discomfort as well as reduced time and cost.

### Case report

A 39 old male patients visited our OPD of the Shalyatantra department for Ayurvedic treatment of Pilonidal sinus. He presented with complaints of pain in the sacrococcygeal region, pus discharge on and off, itching over boil and discomfort over prolonged sitting, constipation on and off or 9 months. The patient was clinically diag

5 nosed as the case of *Nadivrana* i.e., Pilonidal sinus and planned for partial sinusectomy with *Ksharsutra* ligation under local anaesthesia as per day care procedure.

### Local Examination

On inspection of sacrococcygeal region, the patient was hairy and had 2boils with one small sinus opening near Sacro-coccygeal region with pus discharge through the opening, foul smell, swelling (mild) tenderness++, the cord-like indurated structure was felt external opening to the gluteal natal cleft. Probing test was done through-external opening to accessed branching and extension of track (approx.3 cm tract was found).

Per rectal examination done to access any anal pathology or any anal connection. Routine blood and urine examination were done and the report was normal. There was no h/o any other systemic illness.

Before planning treatment other etiology like tuberculosis, pelvic inflammation-causing abscess, HIV, diabetes mellitus, foreign body, or trauma were ruled out.

### Diagnosis

The final clinical diagnosis made was *Shalyaj Nadivrana* i.e. Pilonidal sinus.

### Methodology

This is a single case study. The patient with MRD NO. (OPD/2019/62888) was treated with partial sinusectomy with *Ksharsutra* ligation and periodic assessment of prognosis with therapy was observed. Proper counselling, written informed consent were recorded after explanation of the

proposed line of treatment, following International Council for Harmonised Tripartite Guideline.

### Procedure

**Preoperative:** The written consent was taken before the procedure. The patient was kept nil orally for two hours before surgery. The part was prepared and Pre-operative medications –Inj. T.T 0.5ml I/M and Inj. Xylocaine 2% I/D for a sensitivity test.

**Operative:** The patient was given to the prone position on the operation theatre table. After proper cleaning and draping of operative site-local anaesthesia with (2% xylocaine) was infiltrate nearby gluteal cleft and the surrounding area, Reassessment of extension of the track was done by probing, removal of the embedded hair follicle, debridement of fibrous tissue /pus-unhealthy granulation tissue was removed, pus was drained out. Probing done and tract traced till its blind end and another opening was made over the skin up to the tip of the probe, probe removed through another opening, tract cleaned with betadine

solution or normal saline. Probe embedded with *Ksharsutra* passed through the opening. *Ksharsutra* placed in the intact, two ends of *Ksharsutra* ligated appropriately. Haemostasis achieved and pressure bandaging was done.

**Post-operative:** The patient was asked to attend surgical OPD for dressing on alternate days. Seitz bath (Hip) with lukewarm water was advised before dressing. The Ayurvedic palliative medication was given, *Triphala guggulu* (250mg) 2-tab BD, *Gandhak rasayan vati* (250mg) 2-tab BD, *Gandharva haritaki churna* (3 gm) HS with lukewarm water, adjuvant to antibiotics and anti-inflammatory and antacid was advised for 5 days to reduce pain and inflammation.

The patient was advised to take a high fibre diet and avoid spicy and oily food. The *Ksharsutra* was changed weekly on every 7<sup>th</sup> day for 3 sitting to achieve simultaneous cutting and healing.

**Duration:** In 3 sitting (about 5 weeks), operation complete cutting and healing of tract was achieved.



Fig. 1: Before procedure



Fig. 2: Infiltrate L.A. nearby gluteal cleft and surrounding area



Fig. 3: Reassessment of extension of tract was done by probing



Fig. 4: Bulk of hair expelled out



Fig. 5: Post-Operative day 7



Fig. 6: Post-Operative day 14



Fig. 7: Post-Operative, day 21



Fig. 8: After 30 days, completely healed

### Observation and Results

There was remarkable relief in pain and pus discharge. After 6 days pus discharge from the operative site started becoming less. After one month wound got completely fibrosed. Cut through of tract was done. After cut through, there was a non-infected wound and which completely healed within 30 day. Follow up was done for one year to assess recurrence.

### DISCUSSION

There are so many modalities are available in the treatment of Pilonidal sinus nowadays *Ksharsutra* is becoming more potential to treat Pilonidal sinus. The mechanical and chemical action of thread coated with medication does the cutting, curetting, draining, and cleaning of the sinus tract, but it is time taking process and had to visit repeatedly in hospital for *Ksharsutra* changing. In ancient times *Acharya Sushruta* mentions *Ksharsutra* therapy in *Nadivrana chikitsa*. This minimally invasive procedure a *Ksharsutra* has good potential in the management of Pilonidal sinus.

It minimizes rates of complication and recurrence and enables the patient to resume work

and normal social activities as early as possible. According to Ayurveda the action of *Ksharsutra* is thought to be due to its healing and cleansing effect in the area where it is applied. In this technique, scar formation is minimal and can be cosmetically supported technique.

### CONCLUSION

The case study proved that Ayurvedic *Ksharsutra* therapy is an acceptable treatment to the patient in terms of cost of treatment, discomfort, impact upon body image, and self-esteem. In this case study, minimum tissue loss is seen in comparison to the other surgery. Minimal bleeding occurs & there is no need to put huge dressings. There was no postoperative complication and there is no recurrence and any other complaints. The surgical treatment of Pilonidal sinus has many drawbacks including pain in sitting and recurrence but the use of *Ksharsutra* has good potential in the management of Pilonidal sinus. So, we conclude that in the management of Pilonidal sinus the use of *Ksharsutra* minimizes the rate of complications and recurrence, and enables the patient to resume work and normal social activities

very early. Moreover, further the study is desirable to establish this unique and modified para surgical technique as choice of treatment in the management of Pilonidal sinus.

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