



KSHARASUTRA AS MINIMALLY INVASIVE MODALITY IN MANAGEMENT OF NAADIVRANA W.S.R. TO PILONIDAL SINUS

**Dr. Sunaina Chouhan Solanki¹ Dr Hemant D Toshikhane² Dr.
Harish Daga³**

Article History: Received: 07.05.2023

Revised: 19.06.2023

Accepted: 14.07.2023

Abstract

Shalyaja Nadi Vrana is a type of Nadi Vrana, the etiopathology of which is described by Acharaya Sushruta in Nidana sthaana and its treatment aspect in Chikitsa sthana. It can be correlated to Pilonidal sinus disease, which is common benign ano-rectal problem affecting young person. It is of infective origin and occurs typically in the sacral region. In spite of advances in surgical management, failure rates and recurrence rates are high leading to considerable morbidity in these otherwise healthy patients. PSD is an umbrella term for a spectrum of abnormalities ranging from relatively asymptomatic simple midline pits or sinuses to complex chronically inflamed cavities with multiple fistulous tracks to treatment failure. Most patients present with chronic symptoms but a significant proportion present with an acute abscess. Different stages of the disease may be amenable to different treatment strategies. Pilonidal sinus disease (PSD) is a common condition affecting 26/100,000 of the general population, predominantly young, and employed males. PSD is rarely self-limiting and, therefore, surgery is the mainstay of treatment. Many surgical methods are described including sinus/pit-based procedures, excision with open management, excision and midline closure, and excision with completely off midline flap repair or flap closure which crosses the midline. Adjuvant laser treatment and shaving are also described. Despite all these options, the recurrence may be as high as 60.4% at 24 months post-surgery. This article discusses the etiopathogenesis and effective management approach of Shalyaja Nadi Vrana (Pilonidal sinus) by Surgical and parasurgical approaches. The ancient Ksharasutra technique is a minimally invasive procedure which has less recurrence and complications if performed methodically.

Keywords: Pilonidal sinus, Shalyaja Nadi Vrana, Ksharasutra, Surgical, Parasurgical

¹PG Scholar, Department of Shalyatantra, Parul Institute of Ayurveda, Vadodara, Gujrat.

²Dean & Professor, Faculty of Ayurveda, Parul Institute of Ayurveda, Vadodara, Gujrat.

³Associate Professor, Department of Shalyatantra, Parul Institute of Ayurveda, Vadodara, Gujrat.

***Corresponding Author**

Dr. Sunaina Chouhan Solanki^{1*}

^{1*}PG Scholar, Department of shalyatantra, Parul institute of ayurveda, Limda vadodara, Gujrat.

Email: ^{1*}singhdrnaina@gmail.com

DOI: 10.31838/ecb/2023.12.s3.685

1. Introduction

Nadivrana manifests due to negligence of “Vranashopha”. It persists due to presence of Shalya like Bala and Puya. It is one among eight types of Nadi Vrana. It is characterized by discharge which resembles foam, churned, clear, hot, mixed with blood and along with continuous pain.

शोकं न पक्वमिति पक्वमुपेक्षते यो यो वा व्रणं प्रचुरूपयमसाधुवृतः | अभ्यन्तरं प्रविशति प्रविदार्य तस्य स्थानानि पूर्वविहितानि ततः स पूयः || तस्यातिमात्रगमनाद्गतिरित्यतश्च नाडीव यद्गच्छति तेन मता तु नाडी ||
Shalyaja

Nadi Vrana is a type of Nadi Vrana, the etio pathology of which is described by Acharaya Sushruta in Nidanasthana and its treatment aspect in Chikitsa sthana.

कृशदुर्बलभीरूणां नाडी मर्माश्रिता च या | क्षारसूत्रेण तां छिन्द्यान्न तु शस्त्रेण बुद्धिमान् || एषण्या गतिमन्विष्य क्षारसूत्रानुसारिणीम् | सूत्रीं निदध्याद्गत्यन्ते तथोन्नम्याशु निर्हरेत् || सूत्रस्यान्तं समानीय गाढं बन्धं समाचरेत् | ततः क्षारबलं वीक्ष्य सूत्रमन्यत् प्रवेशयेत् || क्षारात्कं मतिमान् वैद्यो यावन्न छिद्यते गतिः |

Pilonidal sinus (Pilonidal disease was first described by Hodges in 1880)

Pilonidal sinus is also known as Jeep Driver's disease (due to its predominant occurrence). The term **Pilonidal** is derived from Latin words Pilus (hair) and Nidus (nest). During World War II, over 80,000 soldiers in the United States Army were hospitalized with the condition. It was termed “Jeep riders' disease” because a large number of soldiers who were being hospitalized for pilonidal disease rode in jeeps and long journeys on rough terrain were felt to cause the condition because of pressure on and irritation of the coccyx. It is caused due to invasion of hair(s) in the natal cleft leading to foreign body reaction resulting in hair filled abscess cavity. The inflamed hair follicles results in folliculitis due to which edema is seen. This leads to obstruction of follicle's opening. Over time, hair shafts are drawn into the pits by motion from the buttocks, which produces a vacuum effect. Expulsion in the reverse direction is prevented by barbs on the hair shafts. Keratin

accumulation distends the follicle, which eventually forms an epithelialized tube. This tube may rupture into underlying subcutaneous fat, forming an abscess. When an abscess forms, it drains back to the skin through true sinus tracts. Thus pilonidal sinus is due to foreign body reaction which is supported by histological examination. It demonstrates foreign body giant cells associated with hair shafts that are embedded in chronic granulation tissue lining the abscess cavity and sinus tracts. The differential for pilonidal disease is wide and includes perianal abscess, hidradenitis, skin furuncle, Crohn disease, and syphilitic, tubercular, and actinomycotic infection. Antibiotic use in pilonidal disease has a limited role. The most common organisms isolated in chronic pilonidal sinus are aerobes, whereas anaerobes such as bacteroides predominate in associated abscesses. Antibiotic therapy has been evaluated in the perioperative prophylactic, postoperative treatment, and topical roles. Preoperative, single-dose, intravenous antibiotic before excision of a chronic sinus has not been shown to decrease wound complications, healing, or recurrence, whereas varying courses of postoperative therapy have remained controversial. Overall, the use of antibiotics in this role has shown no benefit in reducing wound infection rates

2. Material & Methods

Kshar sutra threading was done on clinically diagnosed patient of Pilonidal sinus and was advised for follow-up for changing ksharasutra every 7th day by Railroad technique until “cut through” of the tract. S.S.C. Hospital, Bidar with complaint of severe pain, mild discharge and small nodule in between and upper portion of natal cleft since 8 days. On local examination, we found a small sinus in between the buttocks (natal cleft), the patient was hairy and moderately built. The sinus was clean

Case Report:

A 20 year old male patient came to Shalya tantra OPD at S.S.C. Hospital, Bidar with complaint of severe pain, mild discharge and small nodule in between and upper portion of natal cleft since 8 days. On local examination, we found a small

sinus in between the buttocks (natal cleft), the patient was hairy and moderately built. The sinus was clean. A 28 year old male patient came to Shalya tantra OPD at Parul Ayurved Hospital Limda Vadodara Gujarat with complaint of severe pain, mild Pus discharge and small nodule in between and upper portion of natal cleft since 15 days.

Local examination

Local examination was done in prone position of patient, the findings on inspection were: patient was hairy and had a small pus discharging sinus opening at mid gluteal natal cleft at left buttock region with good amount of hair nearby. At palpation a cord like indurated structure was felt at external opening to gluteal cleft the track was directed upward towards the sacrum about 3.5 cm. Mild tenderness and pus discharge was present while palpation of the diseased site. There was no any other opening was found near or in gluteal cleft. The sinus was cleaned with an antiseptic solution and probing was done. Probing was done from external opening to accessed branching and extension of tract. Second examination was done in lithotomy position to access any anal pathology or any anal connection. In that patient perianal skin was normal, no any external opening was present nearby anal verge, no sentinel tag, no prolapsed pile mass and no external piles were found. At digital rectal examination no any induration, tender point, pit, fissure bed, hemorrhoidal mass or any pathology was found. By complete thorough examination the diagnosis was confirmed as pilonidal sinus without anal connection or any associate anorectal disorder. We offered him A Kshara Sutra procedure. All preoperative routine investigations including HIV, HbsAg, VDRL, HCV were carried out before planning the procedure and were found to be normal. All situations about disease and its management were explained to the patient and finally it was planned for ksharasutra therapy under local anesthesia as day care procedure.

Pre-operative preparation

After all preoperative investigations, part preparation was done and preoperative dose of antibiotic, antacid and antiemetic was given parenterally. Enema was given at early morning on day of procedure. After proper

bowel clean up patient was taken to recovery room and injection T.T. 0.5 ml IM was given and plain xylocain 2 % was given intradermal for sensitivity test.

Operative procedure

Patient was shifted to Minor OT and vitals were monitored. Patient was given prone position and part painting and draping were done. Under local anesthesia, the probe was inserted from sinus in the direction of its track up to the end about 3.5 cm, another small nick is given on the tip of probe so as to make two openings and the embedded hair follicles were removed out. Hemostasis was maintained and tight bandaging was done Application of ksharasutra was described by Sushruta as direction of the sinus should first be ascertained by a probe. A ksharasutra should then be introduced into the track and brought out from the other end with the help of probe. The two ends of the thread should be firmly tied together. Another ksharasutra should be changed after assessing the strength of the thread or when the sinus cuts through. The surgeon should adopt a similar procedure in case of fistula-in-ano. The Kshara Sutra was tied covering the entire track for simultaneous cutting and healing and minimum dressing given under aseptic measures and the patient was discharged after 6 hours of stay in hospital.

Follow ups

Patient was asked to come for dressing on alternate days, sitz bath with Luke warm water with Panchwalkal kwath was advised before dressing. The Kshara Sutra was changed weekly for 3 sittings by "Railroad Technique" till cut through. To promote healing and reduce pain & inflammation Tablet Triphala Guggulu – 2BD (250mg) for 7 days and Tab Erand bhrishta haritaki - 3HS were also prescribed. The sinus track cut through and healed simultaneously by 4 weeks. After complete healing of the track. Later patient was advised to keep the part free of hairs and maintain local hygiene. Kshara Sutra is medicated caustic thread (seton) coated with herbally prepared Alkaline drugs like Apamarga (ash of *Achranthes aspera*), Snuhi (*Euphorbia neriifolia*) latex as a binding agent and Haridra (*Curcuma longa*) powder. This combination of medicine coating on

thread helps in debridement of necrosed tissues, slough and also act locally as anti-fungal, anti-bacterial and anti-inflammatory and another mechanism is that it enhances the growth of healthy granulation tissue. A 20 year old male patient came to Shalya tantra OPD at S.S.C. Hospital, Bidar with complaint of severe pain, mild discharge and small nodule in between and upper portion of natal cleft since 8 days. On local examination, we found a small sinus in between the buttocks (natal cleft), the patient was hairy and moderately built. The sinus was cleaned with an antiseptic solution and probing done. The Track A 20 year old male patient came to Shalya tantra OPD at S.S.C. Hospital, Bidar with complaint of severe pain, mild discharge and small nodule in between and upper portion of natal cleft since 8 days. On local examination, we found a small sinus in between the buttocks (natal cleft), the patient was hairy and moderately built. The sinus was cleaned with an antiseptic solution and probing done. The Track 20 year old male patient came to Shalya tantra OPD at S.S.C. Hospital, Bidar with complaint of severe pain, mild discharge and small nodule in between and upper portion of natal cleft since 8 days. On local examination, we found a small sinus in between the buttocks (natal cleft), the patient was hairy and moderately built. The sinus was cleaned with an antiseptic solution and probing done. The track was directed upward towards the sacrum about 3.5 cm. Earlier patient consulted Modern surgeon, and advised for surgery but patient was not willing for surgery and interested in Ayurvedic management. Hence we offered him A Kshara Sutra procedure. Before planning this procedure other aetiologies like TB, HIV, HbSAg, DM were ruled out. After all investigations and Lignocaine test dose, patient was shifted to Minor OT. Under local anaesthesia th

3. Discussion

Chronic pilonidal disease presents with pain and discharge around the natal cleft with single or multiple openings associated with hairs or debris which is commonly addressed as Pilonidal sinus even if it has 2 or more opening. Use of Kshar sutra (Medicated Seton) is well documented in fistula in Ano but its use

in Pilonidal sinus is predominantly followed in Ayurveda and available literature is sparse. This minimally invasive procedure Kshar Sutra 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. It is an acceptable treatment to the patient in terms of cost of treatment, extent of discomfort, impact upon body image and self-esteem. The surgical principle of this Kshar sutra in Pilonidal sinus is that it works by cutting the tract by chemical cauterization and mechanical strangulation along with thorough drainage of the tract. This process is slow and lasts for weeks and simultaneously producing fibrosis of the cut sides of the tract finally cutting through and laying open the tract similar to lancing which gradually granulates and heal. Healing was good because no collection remained in the wound site. The pain after Ksharsutra ligation of was bearable as the patient, who is working had not taken a break for this reason. So this is ambulatory method and patient need not take a leave for long period. No side effects or complications were noted during the study. After cut through of the tract, healing of the wound site is done properly & recurrence is not noted.

4. Conclusion

Kshar sutra as a modality could be a minimal invasive procedure done under local anaesthesia as outpatient or day care procedure with good healing potential. Minimal bleeding occurs & there is no need to put huge dressings. There was no post-operative 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 use of Ksharsutras has good potential in the management of Pilonidal sinus. It helps in the debridement and lysis of tissues, and also exerts antibacterial and antifungal activities (it causes both cutting and healing actions). So we can 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. It is an acceptable treatment to the patient in

terms of cost of treatment, extent of discomfort, impact upon body image and self-esteem. Kshar sutra being laced with

antibiotics and anti-inflammatory properties also minimizes the uses of antibiotics and analgesics.

Images

Before Treatment



During Treatment



After Treatment



5. References

1. Buie L. Jeep disease. *South Med J* 1944;37:103.
2. Karydakis GE. Easy and successful treatment of pilonidal sinus after explanation of its causative process. *Aust N Z J Surg* 1992;62:385–9.
3. Nelson J, Billingham R. Pilonidal disease and hidradenitis suppurativa. In: Wolff BG, Fleshman JW, Beck DE, et al, editors. *The ASCRS textbook of colon and rectal surgery*. New York: Springer; 2007. p. 228–35.
4. Vogel P, Lenz J. Treatment of pilonidal sinus with excision and primary suture using a local, absorbable antibiotic carrier. Results of a prospective randomized trial. *Chirurg* 1992;63:748–53.
5. Ksharsutra- ayurvedic scalpel of proctologist for fistula in ano, toshikhane, h.d. And thakor, n.m. And daga, h. 9789355151780 <https://books.google.co.in/books?id=gzbdeaaaqbaj> 2022 book rivers
6. Kaviraja Ambikadutta Shastri, Sushruta Samhita of Maharishi Sushruta edited with Ayurveda Tattva Sandipika, Chikitsa Sthan, Visarpa-nadi-stanaroga chikitsa, Chapter 17/30, 31, 32, Chaukhamba Sanskrit Sansthan, Varanasi, Reprint; 2007. p. 81
7. D Toshikhane, D. H., variya, d. H., & Daga, d. H. (2022). Ayurvedic perception on kshara kalpana in haemorrhoids. Book rivers.
8. D Toshikhane, D. H., Thakor, d. N. M., & Daga, d. H. (2022). Ksharsutra-ayurvedic scalpel of proctologist for fistula in ano. Book rivers.