

EFFECT OF ARKA KSHEERA SUTRA ON PILONIDAL SINUS - A CASE STUDY

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ABSTRACT

Pilonidal sinus occurs in the sacrococcygeal region, extends into the subcutaneous planes as an infected track. This condition is more common in males than in females at a ratio of 4:1 and is commonly seen in 2nd and 3rd decade of life. Incidence is about 26 per 100,000 population. This can be chronic and undergo acute exacerbation. The patient presents with complaints like painful swelling, redness, local raised temperature and sinus discharge. Sedentary life style, prolonged sitting, presence of deep natal cleft and obesity are the contributing factors. It can be correlated with *nadi vrana* in *Ayurveda* and treatment mentioned is *Kshara sutra* application. *Kshara sutra* helps for cutting, curetting and healing of the tract faster. *Kshara* is having antimicrobial action so chance of infection is less. A case of pilonidal sinus in 25y/m patient was thoroughly examined and treated with *ksharasutra* therapy. *Ksharasutra* (prepared with *arkaksheera* and *Haridra*) application was done after preoperative procedures and weekly thread change was done till tract opened completely followed by dressing with *yastimadhu taila*. *Gandhaka rasayana* and *Triphala guggulu* were *shamanoushadhis*, Sitz bath with *panchavalka kashaya* followed by dressing with sterile pad were administered thrice daily. Symptoms like pain, discharge, size of wound, unit cutting time was assessed throughout the treatment. Pain and discharge reduced after 3rd sitting of *ksharasutra* application. *Arka ksheera sutra* application was found to be effective in pilonidal sinus.

Keywords: *Arka ksheera*, *Ksharasootra*, Pilonidal sinus, *Nadivrana*

INTRODUCTION

Pilonidal disease (jeep bottom disease) seen mainly in young hairy males of age 20-30. The condition was first described by Hodges in 1880 and is diagnosed by the characteristic epithelial track. Its literal meaning is “nest of hairs”, that is tract containing tufts of hairs. While sitting the buttocks move and

hairs broken off by friction and collect in the cleft. That loose hairs travel down the intergluteal furrow to penetrate the soft and moistened skin at that region or enter the open mouth of a sudoriferous gland. After the initial entry dermatitis and inflammation start around the loose hairs and once the si-

nus 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. The sinus extends into the subcutaneous tissue. Typically the patient presents with a chronic sinus about the level of first piece of coccyx. A tuft of hairs projects from its mouth. Blood stained foul discharge from sinus. There may be secondary openings on either side of the middle or a little away from the main sinus. Pain and tenderness are often associated with recurrent infection.^[1]

Incidence

The onset of PNS is rare both before puberty and after age of 40. Males are affected more frequently than females, probably due to their more hirsute nature. In a study of risk factors the following associations were found. Obesity 37% sedentary occupation 44% Local irritation or trauma prior to onset of symptoms 34%.^[2]

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 unsuitable foods by the patient, the pus retained inside the ulcer and entering into the muscles etc produces pathway of pus/channels (sinus) inside them for a long distances.^[3]

In *Susrutha samhitha*, *Nidana sthana* it is mentioned as when a doctor opens a *Apakwa* swelling and ignores a *Pakwa vrana shopha* out of negligence or ignorance and if the patient continues unhealthy foods and activities, then the pus breaks down the unimpaired intact tissues, passes deeper and deeper destroying the *Vrana sthanas* because of its moving inside greatly it is known as *Gati* and since the spread is through a tube it is called as *Nadi* (sinus).^[4] Any foreign body lost (remaining hidden) within the tissue mentioned earlier (skin, muscles) produces a sinus quickly; which exudes a warm liquid, frothy, churned up, clear and/or blood mixed, suddenly/always and accompanied with pain.^[5]

Treatments in Ayurveda

- *Chedana* (Incision)
- *Salyanirharana* (Removal of foreign bodies)
- *Margasodhana* (Cleaning the tract)
- *Ropana* (wound healing).^[6]

In *Salyaja nadi vrana* if the patient not willing to do surgery (I&D) he can do with help of probe penetrate the tract, after cleaning apply a thread soaked in solution of *Ksharasutra* inserted into it, repeated it to making the tract clear and wide.^[7]

In persons who are emaciated, weak and frightful and if the ulcer is present in vital organs, the wise physician should cut open the sinus by using *Ksharasutra* and not using sharp instruments.^[8]

PREPARATION OF ARKA KSHEERA SUTRA

Barbour's surgical linen thread no 20 was used for the *arka ksheera Sutra* preparation. 18 coating of *arka ksheera* followed by 3 coatings of *arkaksheera and Haridra* was done and after each coating the thread is dried in *Ksharasutra* cabin.

Mode of Action of arka ksheera sutra

- Provide medicinal debridement by reducing slough or tissue debris.
- Helps cutting, curetting, draining and healing of the tract.
- Provide healthy base for healing.
- Accelerates healing by inhibiting fibrotic process.
- Produce significant pathophysiologic change.
- Helps in progression of healing.
- States harmony of physical properties of tissue.
- It destroys and removes unhealthy tissue and promotes healing of the tract due to caustic action.
- Controls infection by the antimicrobial action.
- Separation of debris and cleaning the wound facilitate in drainage of pus in tract and help in healing.
- Cutting through the tissue and laying the tract open.

Drugs Properties

1. *Arka ksheera*: Anti-oxidant, analgesic, anti-inflammatory and anti-microbial and cytotoxic.

2. *Haridra*: Anti-inflammatory, anti-oxidant, anti-microbial and analgesic.

ASSESSMENT CRITERIA

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

1. UCT = Total no. of days taken to cut through the tract = days/cm

Initial length of the *Kshara sutra* = Time (in days) taken to cut one cm of the fistulous tract with simultaneous healing.

2. Pain

Grade 0: No Pain

Grade 1: Mild Pain, can be tolerated without any medication

Grade 2: Moderate Pain, requiring oral analgesics

Grade 3: Severe Pain, not relieving with oral analgesics

Grade 4: Unbearable, requiring injectable analgesics.

3. Discharge

Grade 0: No Discharge

Grade 1: Mild Discharge (wets 1 × 1 cm gauze piece)

Grade 2: Moderate Discharge (wets 2 × 2 cm gauze piece)

Grade 3: Profuse Discharge (wets more than 2 × 2 cm gauze piece)

Grade 4: Continuous and profuse Discharge

4. Size of the wound

Grade 0: Healed

Grade 1: Wound within 0.5-1 cm

Grade 2: Wound within 1- 2cm

Grade 3: wound within 2 - 3 cm

Grade 4: Wound more than 3 cm

CASE REPORT

A 25 years old male patient complaining of a pustule in the right side of buttock region just lateral to the intergluteal cleft since 6 months associated with severe pain and pus discharge. For which he consulted a surgeon who did incision and drainage and pre-

scribed some medicines. Which relieved the symptoms, but same signs and symptoms developed after 2 months, he felt throbbing type of pain in the intergluteal region sacrococcygeal part. For better treatment he came to SJIM and hospital.

Family history

Paternal h/o pilonidal sinus.

Personal history

While analysing personal history it is noted that the patient has good appetite, normal bowel micturition and sleep.

Diet mainly non-veg.

No habit of taking food in regular time.

Local Examination

Inspection

1. There were two openings in the cleft at a distance of 9cm
2. No swelling and pus discharge
3. Hairs present in the cleft.

Digital examination:

Tenderness present over openings with slight induration.

On probing

There was connection between two openings and it extends little upward above upper pit.

Blood report

Hb-12.3 gm%,

ESR- 55mm/hr,

TC - 11500cells/cmm,

HIV, HbsAg, VDRL - Negative

Treatment Given

Oral medications:

1. *Gandhaka rasayana* 1 tid X 1 month
2. *Thriphala guggulu* 1 tid X 1 month

Procedure: The area was properly shaved and cleansed with betadine. *Arka ksheera sutra* was applied. Thread was changed for 4 times with interval of 7 days each. After tract was cut open cleaning and dressing was done with *yastimadhu taila*. Sitz bath was advised with *panchavalakala kashaya* daily 3 times.

Table 1: Subjective Parameters

Symptoms	Day 1	Day 7	Day 14	Day 21	Day 24	Day 29
Pain	2	2	1	1	0	0
Discharge	3	3	2	2	1	0
Length of Tract	9 cm	6.5 cm	3.5cm	1.5cm	Cut open	-
Size of Wound	Nil	Nil	2	1	1	0

Length of tract assessed by probing the tract initially after that by measuring *the Ksharasutra* used for tying.

Unit cutting time (UCT) = 24/9 = 2.6 6days/cm

Observation and Result

The patient was advised to follow diet and continue oral medicines. In first 2 weeks there was profuse sanguineous discharge and with the progression in cutting of tract from 14th day there was marked reduction in pain and pus discharge. Small hairs were coming out from tract with the discharge. Initially tract length was 9cm which completely cut open on 24th day. After cut through there was a wound and it completely healed by 29th day with complete remission of all symptoms.

Follow up was done for 2 months.

Lab investigation was repeated and ESR become normal 18mm/hr.TC- 10000 cells/cmm

DISCUSSION

A main reason for the disease is *Shalya* that is hair present in the cleft. Because of his shower bathing habit there is chance of some hairs to collect in the intergluteal region. Patient was obese, because of over- weight there is chance of friction of hairs between the gluteal regions. Improper cleaning of anal region after defecation may be a contributing factor for this condition. Proper drainage of pus may not be done in *Pakwavastha* and intake of symptomatic medicine may aggravate the disease. *Vata* causes pain and *Kapha and Pitha* causes *Pooya vardhana*. So *Nadivrana* is *sannipataja*. Excessive consumption of non-veg, curd, milk and less fibre diet will increase the condition.

Arka ksheera sutra application promoted faster cutting and healing of tract. This might be because the latex of *calotropis gigantea* significantly promotes the collagen which helps in wound healing, proco-

agulant activity and blood clot hydrolysis property of *calotropis gigantea* latex helps in proper drainage of pus with healthy healing of tract. *Arka ksheera* has anti-inflammatory and anti-slough agents and have property of causing chemical curettage as a result it directly cures out tract and sloughs out the epithelial lining and thus allows the sinus tract to collapse and heals quickly. Thus the pus discharge gradually reduced throughout the procedure. Because of antimicrobial action of *arka ksheera sutra* chance of infection is rare.

CONCLUSION

Ksharasutra is an easy, cost effective and minimal invasive procedure which promotes better wound healing with least recurrence rate. *Arkaksheera* sutra can be considered as a better alternative in place of *apamarga kshara* sutra because it is easily available, easy to prepare, cost effective and produces minimal burning, irritation and has better wound healing property after cut through.

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