

EVALUATE THE EFFICACY OF APAMARGA KSHAR, SNUHI Ksheera AND HARIDRA CHURNA VARTI IN MANAGEMENT OF POST OPERATIVE WOUND OF PILONIDAL SINUS -A CASE STUDY

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ABSTRACT

Pilonidal sinus occurs in the cleavage between the buttocks^[1] (Natal cleft) and can cause discomfort, embarrassment and absence from work.^[2] it is more common in men (As they have more hair) than in women.^[3] the most commonly used surgical techniques for this disorder include excision and primary closure and excision with reconstructive flap.^[4] However, the risk of recurrence or of developing an infection of the wound after the operation is high. Also the patient requires longer hospitalization, and the procedure is expensive.^[5] There is similarity between *Shalyaja nadi vrana* described in *sushruta Samhita* and pilonidal sinus.^[6] *Sushruta* has advocated a minimally invasive para-surgical treatment, viz, *Kshar varti* procedure, for *Nadi vrana*.^[7] para-surgical procedure planned with ultimately fulfils all the lacunas or pitfalls encountered in the present day management. Hence this therapy was tried in Pilonidal sinus, and is described in this case report. The efficacy of an *Ayurvedic* treatment protocol using *Apamarga kshar* (*Achyranthes aspera*), *Snuhi Ksheera* (Euphorbia

nerifolia latex), and *Haridra Churna* (Turmeric) is evaluated. The combination of these agents aims to promote wound healing, prevent infection, and reduce the chances of recurrence. *Kshar varti* ⇨ treatment not only minimizes complications and recurrence but ⇨ also enables the patient to resume work quicker and with less discomfort, impact upon body image and self -esteem as well as reduced cost.^[8]

KEYWORDS: Pilonidal Sinus, Shalya Tantra, Nadi Vrana Chikitsa, Vrana, Ksharvarti.

INTRODUCTION

The Pilonidal Sinus is a common chronic disorder mainly seen in the sacrococcygeal region.^[9] A blind track which commonly contains hair is occur under the skin between the buttocks in sacrococcygeal region a short distance above the back passage of anus.^[10] The Pilonidal Sinus is often referred to as a Jeep bottom disease because this condition is more often seen in jeep drivers.^[11] It commonly found in hairy males.^[12] This condition can cause discomfort, embarrassment and absence from work.^[13] Sinus is a blind track leading from the surface down to the tissue.

There is a cavity in the tissue, which is connected to the surface through a sinus. The sinus is lined by granulation tissue which may be epithelialized. It is epithelium lined tract, situated short distance behind the anus, containing hairs and unhealthy diseased granulation tissue. This is due to penetration of hairs through the skin into the sub-acute tissues. It forms granuloma on unhealthy granulation tissue in the deeper plane. It is of infective origin and occurs in sacral region between the buttocks.^[14]

Pathology - Hair penetrates the skin \Rightarrow Dermatitis-infection \Rightarrow pustule formation \Rightarrow sinus formation \Rightarrow hairs gets sucked into the sinus by negative pressure in the area \Rightarrow further irritation and granulation tissue formation \Rightarrow pus forms \Rightarrow multiple discharging sinus occurs in the midline.^[15]

Factors causing pilonidal sinus

Cut hairs from above descend into cleft and stay there to get buried deep into pilonidal sinus. Depth, narrowness, friction movement in natal cleft, soft lacerated skin with erosion splits, wide skin pores, wound, presence of moisture and sweat are other factors, obese and overweight patient, prolonged sitting.^[16] The incidence of disease is highest in males (3:1) male to female ratio between ages 15 to 40 with peak incidence. It rarely occurs in patient more than 50-year old.^[17] Acharya *Sushruta* has given much importance to hair as foreign body in the definition of *Shalya tantra* so the *Shalyaja nadi vrana* can be compared with pilonidal sinus.^[18] The classical sign and symptoms of *Shalyaja nadi vrana* are *phenila* (frothy), *Asrikvimisra* (blood mixed) and *Ushnasrava* with *Ruja* (pain).^[19] Different surgical methods have been described for this disease such as excision and primary closure and excision with reconstructive flap however the risk of reoccurrence of developing on infection

of the wound after operative procedure is high. *Sushruta* has advocated a minimal invasive para-surgical treatment viz .*Ksharvarti*.^[20]

Aims

To evaluate the efficacy of *Apamarga kshar*, *Snuhi ksheera* and *Haridra churna varti* in Post-operative management of pilonidal sinus.

Objectives

To evaluate the efficacy *Apamarga kshar*, *snuhi ksheera* and *haridra churna varti* in post-operative management of pilonidal sinus.

CASE REPORT

A 28 years old male patient, residing in Nagar, visited the *Shalaya Tantra* OPD of our *Ayurveda* Hospital. he presented with chief complaints of Pain, itching, tenderness, inflammation with pus discharge from sacrococcygeal region, intermittent fever on and off Since 5-6 days. Initially for the above complaints he consulted local doctors. There antibiotic and analgesic were given. There was no significant relief. Within 4-5 days the symptoms increased and he got admitted to our hospital for further operative management.

After conformation of the pilonidal sinus tract. Excision of sinus tract completely done under S.A.

Then *kshar varti* dressing done in operated wound, covering the entire tract.an appropriate dressing was done under all aseptic precautions.

Then patient is kept for IV medication for next 3 days and then discharged with oral medication for next 5 days. Patient was asked to attained surgical clinic for dressing on alternate days. Sit'z bath with lukewarm warm water was advised before every dressing. *Ksharvarti* dressing was changed on every alternate day for 15 days to promote healing, reduce pain and inflammation .The tract is cut and healed within 3 weeks .Patient was observed for period of 3 months, to check for recurrence.

MATERIAL METHOD

1) Preparation of apamarga kshara^[21]

Whole Apamarga plant was to be collected and cut in pieces, after drying the plant in shade. It should be buried in light fire. Ash was collected and dissolved in water, where by water

quantity is 6 times to that of ash. The solution, so formed was filtered with the help of percolator. Residual ash was gained dissolved in 4 times of water and the same procedure was repeated at list twice in order to take away all the alkaline materials from ash. Ultimately, the ash remains as a neutral residue, which should be thrown, the fluid was filtered several times (filtrating once in a day) and finally, the *Apamarga Kshara* was obtained by evaporating the filtered solution.

2) Collection of Snuhi ksheera (At morning)^[22]

It was collected by incising the stem of Snuhi plant. The secretory milk so obtained from incision should be stored in a pot. As a Snuhi Ksheera has tendency to coagulate early, hence requires fresh *Snuhi Ksheera* every time.

3) Collection of haridra churn^[23]

Dry rhizomes of *Haridra* plant were cut into pieces and powdered which was then sieved through a fine cloth. the fine powdered thus obtained should be kept in jar for use.

Method of preparation of ksharvarti^[24]

“*Apamarga kshar, Snuhi ksheera and Haridra churna varti*”

Take roller gauze of 5cmx4” size. Cut them into 12 cm long pieces. The gauze piece is evenly coated with *Snuhi ksheera* on day 1st 10 ml was applied with the help of small cotton swab over the gauze on its whole circumference. It is dried for a day. Hand should be gloved before smearing. On 2nd day dried gauze is again smeared with *snuhi ksheera* 10 ml fallowed by 2 gram *Apamarga kshara* with cotton swab then dried for a day On 3rd day dried gauze was smeared with *Snuhi ksheera* 10 ml fallowed by 2 gm *Haridra* powder then dried for a day one coating of *Snuhi ksheera* required 10 ml quantity, so total quantity of snuhi ksheera in *Ksharvarti* is 30 ml ,*Apamarga kshara* is 2 gm, *Haridra* powder is 2 gm In this way single coating of each *snuhi ksheera* ,*Apamarga kshara* and *Haridra churna* was applied to piece of gauze of 5cmx4” size and 12 cm varti. This prepared varti placed in sterilized container.

1) Dravya- Snuhi ^[24]	2) Dravya- Apamarga ^[25]	3) Dravya –Haridra ^[26]
Part used- Latex	Part used- Kshar	Part used- Rhizome
Rasa- Katu	Rasa- Katu, Tikta,	Rasa-Tikta, Katu.
Virya- Ushna	Virya- Ushna.	Virya- Ushna.
Vipak- Katu	Vipak- Katu.	Vipak- Katu.
Guna- laghu, Tikshna.	Guna- laghu, Rukshna,	Guna- laghu Rukshna.
Karma- Lekhana,	Tikshna	Karma- Lekhana,
Shothahara, Kaphavataghna.	Karma- Lekhana,	Shothahara,
Application- applied <i>snuhi</i>	Vranashodhana,	Vranashodhana,

<i>ksheera</i> over <i>Ksharvarti</i> acts to further debride and cleanse the area, break down unhealthy tissue, and facilitate granulation tissue formation. Its corrosive properties help dissolve any residual sinus tract material.	Vranaropaka, Shothahara, Vedanasthapaka, Krimighna. Application-applied <i>Apamarga kshar</i> over <i>Ksharvarti</i> acts to debride necrotic tissue, clean the sinus tract, and promote healthy tissue formation.	Vranaropaka, Vedanasthapaka, Krimighna. Application-applied <i>Haridra churna</i> over <i>Ksharvarti</i> acts to reducing infection and inflammation, providing a protective layer to the wound and accelerating the healing process with its Anti- Inflammatory and Anti-Bacterial properties.
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Required equipments

- 1) Examination lamp
- 2) Shadowless light
- 3) Instruments- Various sizes of probes- Artery Forceps- Scissors- Surgical blade- Scalpel- plain Forceps- Cotton- Gauze piece etc ...
- 4) Surgical gloves.
- 5) Anaesthetic drugs
- 6) Antiseptic lotion
- 7) Sterilizer

Procedure of application

Pre-operative procedure

- (1) NBM from the previous night before the procedure.
- (2) Time of the surgical procedure in the morning
- (3) Informed written Consent
- (4) Inj.Xylocaine sensitivity test
- (5) Preparation of the operative part
- (6) Soap water enema 2 hr. before procedure.
- (7) Inj.T.T. 0.5 ml IM half hour before procedure.
- (8) Inj.Atropine 0.6 mg IM half an hour before procedure

Operative procedure

In prone position

Under spinal anaesthesia

Painting, draping and isolation of the part done

After detecting the track with passing probe through external opening, standard excision of pilonidal sinus done.

Achieve complete hemostasis.

Now apply Varti which was prepared with *Snuhi-ksheera*, *Apamarga kshar* and *Haridra Churna*. then put dressing pad and packed the wound with sticking bandage.

After above procedure on 3rd day open the dressing & wash track with NS

Unhealthy granulation tissue is removed completely and application of Kshar varti done

Above dressing procedure will be done for every alternate day for 30 days

And observation follow up for next 3 month on every 15th day to check for recurrence.

Post operative procedure

- (1) TPR/BP chart 2 hourly.
- (2) NBM for 6 hours.
- (3) Head low position for 12 hours.
- (4) Admission and medication for 5 days.
- (5) Inj.Cecef 1.5 gm IV/BD Cefuroxime sodium. (gsk)
- (6) Inj. Metro 100 mg IV /TDS Metronidazole. (ZEELAB)
- (7) Inj.Pantop 40 mg IV / BD Pantoprazole. (Aristo)
- (8) Inj.Diclo 75 mg IM /SOS Diclofenac Sodium. (Cedilla Pharmaceutical).
- (9) Patient have advised intravenous injections for 3 days and then shift on oral medication
- (10) Oral medication for next 5 days is as follows –
- (11) Tab. Augmentin 625 mg BD Amoxicillin and Potassium clavulanate after meal (GSK Pharmaceuticals)
- (12) Cap Rekool - 40 OD Enteric coated Rabeprazole Sodium and Domperidone before meal. (Alembic)
- (13) Tab Enzo flam BD Paracetamol Diclofenac Sodium and Serratopeptidase after meal (Alkem laboratories)
- (14) Tab.Zincovit Each day OD Multivitamin continue for 30 days (Apex)
- (15) Intravenous fluids (i.e.NS, RL,DNS) according to clinical hydration status of patients
- (16) 1st day -1 lit 2nd day - 500 ml
- (1) 3rd day - semisolid diet 4th day – normal diet
- (17) Sitz bath with lukewarm water regularly

Therapy plan

Drug	Test drug <i>Apamarga kshar, Snuhi ksheera and Haridra churna varti.</i>
1) Way of application	<i>Apamarga kshar, Snuhi ksheera and Haridra churna varti</i> placed in post-operative wound of pilonidal sinus track after every Alternate day from the operative day. Rx in IPD after post-operative procedure- IV RL/NS/DNS Inj.Cecef 1.5 gm IV/BD , Inj. Metro 100 mg IV /TDS, Inj.pentop 40 mg IV / BD, Inj.Diclo 75 mg IM /SOS, All about treatment for 3 days, Oral medication for next 5 days is as follows - (1) Tab. Augmentin 625 mg BD after meal (2) cap Rekool -D OD before meal.(3) Tab. Enzo flam BD after meal (4) Tb. Zincovit Each day OD Continue for 30 days.
2) Kaal	Morning (every alternate day)
3) Study duration	3 month
4) Follow up	After treatment follow up will be taken after every 15 days for 3 months.

Local examination

A opening measuring 3 cm at sacrococcygeal region was found with 2 cm away from anal verge have inflammation with Discharge and Fual.

General examination

GC-Moderate

BP-130/90 mm of Hg, P-88/MIN, SPO2-98% on RA

Systemic examination

CVS-S1S2 +

CNS- conscious and oriented

RS-AEBE clear

Routine investigations

CBC 13.8gm% WBC-7400 URINE -NORMAL

BSL -120 mg/dl TRIDOT/HBSAG -NEGATIVE

..... All above lab were within normal limits.

OBSERVATION TABLE

Signs and symptoms observed during treatment							
Observation	Op day	3 rd	5 th	7 th	9 th	11 th	13 th
Pain	+++	+++	+++	+++	++	++	++
Itching		++	++	++	+	+	+

tenderness	+++	+++	+++	+++	++	++	++
Discharge	++++	++++	++++	+++	+++	+++	++
Inflammation	+++	+++	+++	+++	++	++	++
Length of wound in cm	3-4	3-4	2-3	2-3	1-2	1-2	0-1
Breath of wound in cm	2-3	2-3	2-3	1-2	1-2	0-1	0-1
Induration	Very Bright Erythem a	Very Bright Erythem a	Bright Erythem a	Bright Erythem a	Faint Erythem a	Faint Erythem a	Very Faint Erythema

Observation	15 th	17 th	19 th	21 th	23 th	25 th	27 th	29 th
Pain	++	+	+	+	-	-	-	-
Itching	+	-	-	-	-	-	-	-
tenderness	+	+	+	-	-	-	-	-
Discharge	+	+	+	-	-	-	-	-
Inflammation	+	+	-	-	-	-	-	-
Length of wound in cm	0-1	Less than 1	Less than 1	-	-	-	-	-
Breath of wound in cm	Less than 1	Less than 1	-	-	-	-	-	-
Induration	Very Faint Erythem a	Very Faint Erythem a	No Erythema	No Erythem a	No Erythem a	No Erythem a	No Erythem a	No Erythema

Observation	15 th	30 th	45 th	60 th	75 th	90 th
Pain	++	-	-	-	-	-
Itching	+	-	-	-	-	-
tenderness	+	-	-	-	-	-
Discharge	+	-	-	-	-	-
inflammation	+	-	-	-	-	-
Induration	Very Faint Erythema	No Erythema	No Erythema	No Erythema	No Erythema	No Erythema

Followup table

Result

Wound healing- The patient demonstrated significant improvement within the first week of treatment. By day second week, there was noticeable reduction in wound size, inflammation, and drainage. Granulation tissue formation was evident, and by the end of 3rdweek, the wound had closed without signs of infection.

Infection control- The use of *Haridra Churna* was effective in controlling local infection. The anti-microbial properties of turmeric, combined with its ability to reduce inflammation,

prevented bacterial growth and accelerated the wound-healing process.

Recurrence prevention- No recurrence of the pilonidal sinus was observed in the 3 month follow-up period. The debridement properties of *Apamarga Kshar* and the tissue regenerative abilities of *Snuhi Ksheera* played a critical role in preventing the formation of new sinus tracts.

Patient got total relief from Pain, Itching, Tenderness, Inflammation, Discharge, Foul smell within 3 weeks.

Ksharvarti is a medicated varti coated with herbal alkaline drugs like-*Apamarga kshar*, *snuhi ksheer* and *haridra churna*. This combination of medicine on gauze varti helps in debridement and lysis of tissues. Exerts anti-fungal, anti-bacterial and anti-inflammatory. Another mechanism proposed for the *Ksharvarti* is that it destroyed the residual glands in the epithelium.

DISCUSSION

The combination of *Apamarga Kshar*, *Snuhi Ksheera*, and *Haridra Churna* provides a holistic approach to wound management. Each component plays a distinct role in the healing process: *Apamarga Kshar* acts as a potent debriding agent that removes unhealthy tissue and clears sinus tracts, which are a major cause of recurrence in pilonidal sinus. *Snuhi Ksheera* enhances tissue repair by breaking down necrotic material and promoting the formation of new, healthy tissue. *Haridra Churna* ensures the wound remains infection-free while simultaneously reducing inflammation, facilitating a faster healing process. Together, these agents align with *Ayurvedic* principles of wound care, which emphasize the importance of debridement, cleansing, and tissue regeneration using natural substances.

This *Ksharvarti* dressing has good potential in 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.

CONCLUSION

This case study demonstrates the efficacy of an *Ayurvedic* treatment protocol using *Apamarga Kshar*, *Snuhi Ksheera*, and *Haridra Churna* in the management of post-operative pilonidal sinus wounds. The natural agents were effective in promoting faster wound healing,

controlling infection, and preventing recurrence.

Future studies involving larger patient populations and randomized controlled trials could further validate these findings and establish standardized protocols for *Ayurvedic* management of pilonidal sinus wounds.

Case study photograph

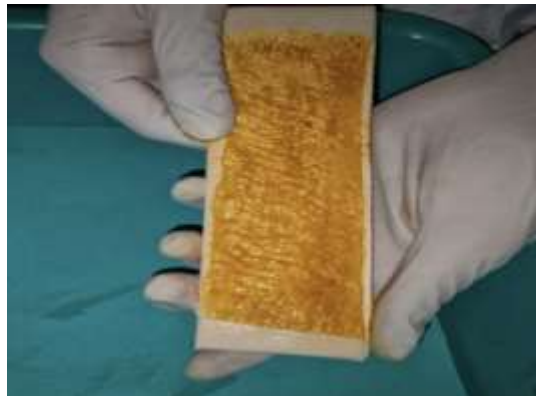
- Application of snuhi ksheera



- Application of apamarga kshara



- Application of haridra churna



Prepared apamarga kshar snuhi Ksheer and Haridra churna varti with application in patient



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