

A Holistic Review of Therapeutic Potential of Palasha Kshara Sutra in Shalyaja Nadivrana vis-a-vis Pilonidal Sinus

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ABSTRACT

Pilonidal sinus (PNS) is characterized by the presence of a sinus tract in the sacrococcygeal region, typically containing hair and debris, which can lead to recurrent infections and abscess formation. *Shalyaja Nadivrana* is a type of *Nadivrana* explained in *Sushruta samhitha*. Clinically it can be correlated with Pilonidal sinus. Conventional treatments include surgical excision, which may result in prolonged healing and high recurrence rates. Ayurveda offers *Kshara Sutra chikitsa*. This para surgical technique has shown promising treat conditions like fistula-in-ano and now holds potential in managing pilonidal sinus. *Ksharasutra* ligation is regarded as the best method in pilonidal sinus as it is safe, effective, economical and simple OPD procedure with recurrence rate of 5.88%. *Ksharasutra* ligation its gradual and sustainable chemical action not only removes the debris from the site of track but also helps in encouraging new healthy granulation tissue formation. The present study aims to explore the effect of *palasha kshara sutra* in the management of *shalyaj nadivrana*. As *Palasha* having *katu, tikta, Kashaya rasa, katu vipaka, ushna virya*, is *vatakaphahara, vranahara, krimihara and shothahara* properties. *Palasha kshara sutra* has anti-inflammatory, anti-oxidant, anti-microbial, anti-fungal and analgesic properties.

KEYWORDS: Nadivrana, Palasha, Ksharasutra, Pilonidal Sinus

INTRODUCTION:

Shalyaja Nadivrana is a type of *Nadivrana* explained in *Sushruta samhitha*. It manifests as a complication of *Vranashopha*. *Shalya* (foreign body) like bala(hair) enters into *twagadi dhatu* resulting in the manifestation of “*Shalyaja Nadivrana*”. Characteristically, non-healing tract with frothy, curd like, clear, blood tinged, hot discharge with continuous pain⁽¹⁾.

Clinically can be correlated with Pilonidal sinus. Sinus is a blind-ending tract extending from skin to the deeper tissue, lined by unhealthy granulation tissue to an epithelial surface⁽²⁾. Broken hair tends to collect in the natal cleft, eventually penetrating skin to form the Pilonidal sinus.

Incidence of this disease is about 26/1lakh population typically seen in the hirsute male than in female in the ratio of 6:1^(3a).

The current management of this disease involves excision and skin grafting, evacuation & curettage, Z-plasty, Rhomboid flap, Karydakis, V-Y plasty, which requires hospitalization & long-term post-operative dressing⁽⁴⁾. Previous study shows postoperative complications developed 29.2% with recurrence rate of

13.2%⁽⁵⁾

In *Sushrutha samhitha*, *chikitsa* for *Shalyaja nadivrana* includes *Bhedhana*, *ksharasutra* and *vartiprayoga*. Among them, *Ksharasutra* ligation is regarded as the best *Chikitsa* ⁽⁶⁾.

Palasha ksharasutra is made by using *Palasha kshara*, *Snuhi* & *Haridra*. *Palasha Kshara* is an alkali consisting water soluble ash and which yields high potassium content⁽⁷⁾.

In addition, it also yields Sulphates, Phosphate, Iron (ferrous and Fe₂O₃), Aluminum (Al₂O₃), Calcium, Magnesium, Carbonate, Chloride and Sodium^{(8),(9)}. Considering these factors, an attempt is made in the study, aiming at establishing the effectiveness of *Palasha ksharasutra* in the management of *Shalyaja Nadivrana*.

AIMS AND OBJECTIVES:

Role of *Palasha kshara sutra* in the management of pilonidal sinus.

MATERIALS AND METHODS

Related references collected from classical texts of Ayurveda, modern text books, various publications, internet and research papers

DISEASE REVIEW-

A *Vrana* which discharges pus at all time is called "*Nadi Vrana*". It causes if the *murkha vidya* neglected matured *vrana shopha* as an immatured one without doing *shastra karma* and leaves a fully pus filled *Vrana Shopha* without *Peedana Shodhanadi Karmas*. When the surgeon drains the *Apakwa Vrana Shopha*. When the patient does *Ahita Ahara* and *Vihara*. *Bhagna Vrana Upeksha* - *Vrana* created by *Bhagna* treated improperly.⁽¹⁰⁾

Samprapti if a *Shalya* (foreign body) becomes stuck within the body for an extended period of time. It creates a tract or *Gati*. That tends to burst open the skin. *Puya* and *Phenayukt* discharge can be seen from this tract. This is known as *Shalyaj nadivrana*.^(11,12)

TYPES OF NADI VRANA⁽¹³⁾

SI. NO	Bheda	Su	Ast. Sa	As t. Hr	Ma . Ni	Bh .p	Sh.s	Gad . Ni	Yo. Ra	Vn g. Sn	Ni .R t
1	Vataja	+	+	+	+	+	+	+	+	+	+
2	Pittaja	+	+	+	+	+	+	+	+	+	+
3	Kaphaja	+	+	+	+	+	+	+	+	+	+
4	Vatapittaja	+	-	-	-	-	-	-	-	-	-
5	Vatakapahaja	+	-	-	-	-	-	-	-	-	-
6	Pittakaphaja	+	-	-	-	-	-	-	-	-	-
7	Sannipataja	+	+	+	+	+	+	+	+	+	+
8	Shalyaja	+	+	+	+	+	+	+	+	+	+

Table 1: Types of Nadivrana

TREATMENT⁽¹⁴⁾:

- *Shalya Nirarana* (Removal of foreign body – hair, pus, etc.)
- *Chedana* (Incision)
- *Margashodhana* (Cleaning the tract)
- *Ropana* (Wound healing)
- *Varti prayoga*
- *Khara sutra chikitsa*.

MODERN CONCEPT¹⁵:

The word 'pilonidal' means nest of hairs. It is a sinus which contains a free tuft of hairs. These sinuses are commonly found in the skin covering the sacrum and coccyx, between the fingers (in hair dressers) and at the umbilicus. Hair-containing sinus or abscess in the sacro-coccygeal area. These sinuses are commonly found in the skin covering the sacrum and coccyx but can occur between the fingers particularly in hair dressers and at the umbilicus. This condition is mainly seen between 15 and 40 years. At this age the mouth of sudoriferous gland becomes wider. It is rare before puberty and after 40 years. It is common in men than women ratio 6:1. It is typically common in dark-haired, hirsute white men. Hairs break off by friction and then find entry either through the open mouth of the sudoriferous gland or through the soft skin either by sweat or some form of dermatitis. The current management of this disease involves excision and skin grafting, evacuation & curettage, Z-plasty, Rhomboid flap, Karydakis, V-Y plasty, which requires hospitalization & long-term post-operative dressing.



Fig 1: Pilonidal sinus

DRUG REVIEW-

PALASHA KSHARA^{16,17}

Botanical Name: *Butea monosperma*

Family: Fabaceae

Rasa: Kashaya, Katu-Tikta.

Guna: Ushna, Sara, Laghu, Rooksha.

Veerya: Ushna.

Vipaka: Katu..

Karma: Shulhara, krimihara, vranahara

Part used: , Bark , Leaves. Gum, Seeds, Flowers

CONTAINS	PERCENTAGE %
Sulphate	<9.6%

Phosphate	<9.2%
Iron as ferrous	<1.93%
Iron of Fe ₂ O ₃	<3.9%
Aluminium	<3.02%
Potassium	<27.9%
Calcium	<0.98%
Magnesium	<3.07%
Carbonate	<9.6%

pH - 11.5

PREPARATION OF PALASHA KSHARASUTRA:

Palasha Ksharasutra will be prepared by using the No.20 surgical linen thread coated with 11 coatings of the *Snuhi ksheera* (Euphorbia Nerifolia), 7 coatings of *snuhi ksheera* and *Palasha kshara*, followed by 3 coatings of *snuhi ksheera* and *Haridra churna*. Dried by exposing to UV rays in *ksharasutra* cabinet. Then cut into adequate size. Stored in an air tight glass container. Prepared *Palasha ksharasutra* shall be chemically analysed.

PROCEDURE OF KSHARASUTRA APPLICATION:

Purva karma:

- The Procedure of *ksharasutra* application will be explained to the patients.
- A written informed consent will be taken before the procedure.
- Inj. Xylocaine test 0.2ml/SC will be given.
- Injection TT 0.5ml – IM will be given.
- Part preparation will be done around natal cleft region.

Pradhana karma

- After taking all aseptic precautions, patient will be taken in prone position.
- Painting will be done with Povidine Iodine followed by draping.
- If required local anesthesia will be given.
- The malleable probe will be inserted gently into the tract and will be assessed by means of probe.
- The probe will be guided along the tract till the resistance is felt then the tip of the probe felt by the finger following where an artificial opening will be made with surgical blade..
- In case of multiple tracts, Probing shall be done from the primary opening till the secondary opening (farthest) is reached.
- A barbour thread (no.20) made sterile with Povidine iodine has to be passed through the eye of the probe and the probe is pulled out gently, to leave the behind in the tract.
- The two ends of the barbour thread will be tied together with snugly tightness. This procedure is called as primary threading.
- After 3days, the barbour thread will be replaced by *Palasha kshara sutra* by Rail- road method. On every 7th day *ksharasutra* will be changed.

Pashchat karma:

Patient will be advised to take sitz bath in lukewarm water twice a day, for 20 minutes and attend normal day -to- day activities during the period of treatment.

The length of tract will be measured on day 1 and on every successive 7th day after changing the *ksharasutra* and it is recorded in the Proforma of case sheet prepared for the Intended study. Observation is done till complete cutting and healing of the tract

CLINICAL EFFICACY AND OUTCOMES:

Several clinical studies have demonstrated the effectiveness of Kshara Sutra in the management of pilonidal sinus, showing reduced healing times, lower recurrence rates, and minimal complications. Patients treated with Kshara Sutra experience less pain, quicker recovery, and better cosmetic outcomes compared to those undergoing conventional surgery. The therapy is well-tolerated, with no significant side effects.

DISCUSSION:

Palasha Kshara Sutra is prepared by repeatedly coating a barbour thread (no.20) with herbal alkaline substances, such as *Butea monosperma* (*Palasha*). The thread is inserted into the sinus tract, where its chemical cauterization properties facilitate controlled excision, cutting, draining and healing of sinus track. Over time, the sinus tract shrinks, granulates, and heals without the need for aggressive surgery. The thread's antimicrobial and anti fungal properties also help prevent secondary infections and promotes healthy granulation tissue formation. Hence *Palasha kshara sutra* in pilonidal sinus is a simple and effective treatment measure with least chances of recurrence rate, causing minimal post-operative pain, discomfort and other complications, which requires minimal hospitalization and easily affordable and acceptable by the patients.

CONCLUSION:

Kshara Sutra therapy, particularly with the use of *Palasha Kshara Sutra*, presents a promising alternative to conventional surgical treatments for pilonidal sinus. *Palasha* easily available, an aqueous solution produces potassium-like properties. Its chemical cauterization properties helps to fast cutting and healing of sinus tract quickly. *Kshara sutra* its minimally invasive nature, reduced recurrence rates, cost effective and quicker healing, It holds potential as a primary treatment option in Ayurveda. Further research and standardized treatment protocols are needed to validate its long-term efficacy and broader applicability.

REFERENCES:

1. Prof. K.R.Shrikantha Murthy, Acharya Sushruta – vol-1, Edited in 2014, Choukambha orientalia, Varanasi, Sushruta Samhita with English translation Nidana Sthana Ch 10, verse 9 - 14.
2. R.C.G Russell, N.S. Williams, C.J.K Bulstrode, Editors. Bailey & Love's Short Practice of Surgery. 25th ed. London: Arnold, a member of the Hodder Headline Group; 2000
3. (a & b) Das A Concise textbook of Surgery 10th edition SRB manual of Surgery, 6th edition, Sriram bhat M, Chapter no.25, Page no.1037- 1038
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3723218/>
4. Acharya Sushruta – Sushruta Samhita with English translation by Prof. K.R.Shrikantha Murthy, vol-1, Edited in 2014, Choukambha orientalia, Varanasi, Chi.Ch.17 verse 17. Page .167
5. Prof K.C.Chunekar, Edited by Late. Dr. G. S. Pandey, Bhavaprakasha - Bhavaprakasha by Bhavamishra, commentary by 2013, Varanasi: Chaukhamba bhatharathi achedemy, Shloka no 50 Page no 536.

6. Prof. G. S. Lavekar, Laboratory guide for the analysis of Ayurveda and siddha formulations, CCRAS, Page No. 42
7. Prof. G. S. Lavekar, Laboratory guide for the analysis of Ayurveda and Siddha formulations, CCRAS, , Page No. 27.6. Prof. G. S. Lavekar, Laboratory guide for the analysis of Ayurveda and Siddha formulations, CCRAS, Page No. 27- 28.
8. Acharya Sushruta – Sushruta Samhita with English translation by Prof. K.R. Shrikantha Murthy, vol-1, Edited in 2014, Choukambha orientalia, Varanasi, Nidana Sthana Ch 10, verse 10, Pg-529.
9. Acharya Sushruta – Sushruta Samhita with English translation by Prof. K.R. Shrikantha Murthy, vol-1, Edited in 2014, Choukambha orientalia, Varanasi, Nidana Sthana Ch 10, verse 9, Pg-529.
10. (a&b) Acharya Sushruta – Sushruta Samhita with English translation by Prof. K.R. Shrikantha Murthy, vol-1, Edited in 2014, Choukambha orientalia, Varanasi, Nidana Sthana Ch 10, verse-11 to 14, Pg-529-530
11. Acharya Sushruta – Sushruta Samhita with English translation by Prof. K.R. Shrikantha Murthy, vol-1, Edited in 2014, Choukambha orientalia, Varanasi, Nidana Sthana Ch 10, verse 10, Pg-529
12. Acharya Sushruta – Sushruta Samhita with English translation by Prof. K.R. Shrikantha Murthy, vol-1, Edited in 2014, Choukambha orientalia, Varanasi, Chi. Ch. 17 verse 17. Page .167
13. S. Das: A Manual on clinical surgery, Publisher Dr. S Das , 10th edition Chapter no. 36, Page no. 551
14. Manju Pilania et al. A Pharmaceutical and Analytical Study on Palasha Kshara ISSN: 2456-3110 ORIGINAL ARTICLE March 2024 Journal of Ayurveda and Integrated Medical Sciences | March 2024 | Vol. 9 | Issue 3 <https://jaims.in/jaims/article/view/3162>
15. Acharya Sushruta - Sushruta Samhita with Nibandha Sangraha commentary of Sri Dalhanacharya, edited by Vaidya Yadavji Trikamji Acharya, Chaukamba krishnadas academy Prakshana, Varnasi reprint 2008, su.su 11, Verse 11 Pg- 43.