## Case Report

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# Kshar sutra in Pilonidal sinus: a minimal invasive modality of management

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#### **ABSTRACT**

Pilonidal sinus is an infective condition between the natal cleft in young males. Chronic Pilonidal disease normally needs a surgical treatment for eradication of septic focus, which ranges from cutting of the tract to complex rotation flap. Kshar sutra is an age old treatment modality practiced since times of Sushruta. Lack of established evidence in the evidence based scenario is the rationale for current study. It is a tertiary care hospital based case series with inclusion criteria of pain and discharge in and around the natal cleft. Clinically diagnosed as Pilonidal sinus with two openings one in natal cleft and other outside the natal cleft. The patients with multiple sinuses, previous treatment and co-morbid conditions are excluded. The study factor was of Kshar sutra threading of Pilonidal Sinus done under local infiltration of anaesthesia around the tract and changed 2-3 times during entire treatment period on clinical judgement. The outcome factors were duration of cutting open of tract and duration for total healing, number of times Kshar sutra was changed and local complications. A total of 5 cases, all males with median age of 21 years and median presentation duration of 8 months were recruited. The median cutting duration of the tract was 23 days and total tract healing time was 29 days. Kshar sutra was changed 2-3 times during the entire duration of treatment. There was no post-operative complication and recurrence after 20.4 months of follow up. Kshar sutra is a minimal invasive procedure in Pilonidal sinus which has encouraging results but need large sample and an RCT to provide quality evidence.

**Keywords:** Kshar sutra, Medicated seton, Pilonidal sinus

### INTRODUCTION

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 which needs an eradicative surgery aimed at eliminating the disease process, which is acceptable to patient with no complications, recurrence and early resumption of normal work and social activities. The management option varies from phenol injection, lancing, excision of tract and complex rotational flap. All these modalities have post-operative morbidities and recurrence hence need for finding an alternative management modality. Kshar (Medicated Seton) was advocated by Sushruta for management of Pilonidal sinus in Sushrut Samhita (a treatise of Indian medicine).1

There are occasional case reports to indicate usefulness of Kshar sutra mainly published in Ayurveda Journals. The use of Seton therapy in Pilonidal sinus is not available in allopathic literature. The study presents the results of a small case series in a specifically selected group of patients of Pilonidal sinus.

#### **CASE REPORT**

This is a case series from a tertiary care Allopathic teaching hospital. The patient selection criteria was a discharging sinus in and around natal cleft with only two openings, one in the cleft or in the midline and other by the side of the cleft, giving history of repeated infections and clinically diagnosed as Pilonidal sinus and not treated by any surgical modalities in the past. The exclusion criteria was the patient with multiple sinus, previously treated, with co morbid conditions like DM,TB and immune compromised patients. The study factor was introduction of Kshar sutra under local anaesthesia after thoroughly cleaning the tract with H2O2 and saline. By using a malleable copper probe (Figure 1, 2) a Kshar sutra was introduced, followed by ligation of suture without tension (non- cutting seton) (Figure 3). The outcome factors were duration of cutting open of tract (Figure 4) and total duration of healing, number of times Kshar sutra changed and post threading complications.



Figure 1: Probing of the Pilonidal sinus tract.



Figure 2: Threading of the sinus tract.

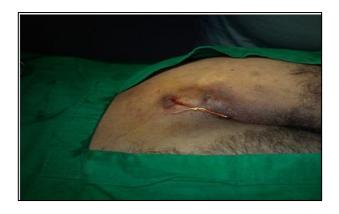


Figure 3: Knotting of the thread.



Figure 4: Post procedure image after 1 week.



Figure 5: Case no 4 before procedure.



Figure 6: Case no 4 post procedure showing healed tract.

Total of 5 cases fulfilling the inclusion criteria were recruited over 3 years' time. All of them were males and with median age of 21 years. The median duration of presentation with the sinus was 8 months (range 1 to 27 months). The median duration of cutting open of the tract

was 23 days and total healing time was 29 days. The number of times Kshar sutra was changed was 2-3 during total duration of management. The recurrence rates were nil after 19 months of median follow-up (Table 1).

Patient	Age (years)/	Duration of presentation	No. Of times change of	Days for cut open of tract	Total healing (days)	Follow up (months)
Case 1	21/M	(months)	thread 3	(days) 37	46	19
Case 2	32/M	8	2	23	29	21
Case 3	17/M	6	2	20	25	17
Case 4	21/M	1	2	18	23	9
Case 5	29/M	27	3	29	32	36
Median	24	8	2	23	29	20.4

Table 1: Demographic factors, clinical details and outcome factors.

#### **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. 1-4 The Sushrut Samhita describes a condition called as 'Shalayaj Nadi Varan" which is similar to Pilonidal sinus and advocated the use of Kshar sutra for its management. Kshar sutra is a medicated seton coated with herbal alkaline drugs like Apamarga (Kshar) (ash of achyranthus ascera), snuhi (euphorbia neurofolia) Latex and Haridra ( curcuma longa). This medicated seton helps in debridement and lysis of tissues with antibacterial, anti-fungal and antiinflammatory action. There is lack of any quality evidence in literature due to rarity of condition and lack of publications of research work by Ayurveda surgeons.

The surgical principle of this Kshar sutra in Pilonidal sinus is similar to Seton used in fistula in ano but its only requirement is the presence of single tract, at least with two openings to allow threading of Kshar sutra which works by cutting the tract by chemical cauterization and mechanical strangulation along with through drainage of the tract.<sup>3</sup> 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. The study selected single tract patients that are why the validity of study is limited and it is a drawback of the study. Use of MRI or soft tissue sonography after injection of H2O2 might helpful in identification of tract for confirmation of single tract. Multiple Kshar sutras

could be introduced in patient with multiple ramifications in future studies.

In present study only 5 cases which fulfilled the selection criteria were included. The mean cutting open and final healing time was between 3 to 6 weeks respectively suggesting slow cutting and gradual healing by fibrosis. The change of Seton gave adequate opportunity to irrigate the tract and remove residual debris and hairs which was done 2 to 3 times depending upon the length of tract based on clinical judgment.

No complication like severe pain in post-operative phase and no recurrence with follow-up of more than 2 years. As the Seton was not tightly ligated in our patient's post-operative pain due to cutting effect was not observed. Only drawback of present study is study design, which was observational case series and its sample size is small due to stringent inclusion criteria, so also the references from the literature are few for comparing the results. Hence there is a need for more studies with large sample size.

#### **CONCLUSION**

Kshar sutra as a modality could be a minimal invasive procedure done under local anaesthesia as outpatient or day care procedure without any side effects and complications with good healing potential in selected group of patients. Kshar sutra being laced with antibiotics and anti-inflammatory properties also minimizes the uses of antibiotics and analgesics.

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