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Kshara Sutra as an alternative to Karydakis flap technique and Z plasty in Pilonidal Sinus- A Case Report

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Abstract:

Pilonidal disease typically presents with an abscess or intermittent pain and drainage in the sacrococcygeal region during the pubertal years. Further examination typically reveals pits in the midline of the sacrococcyx area due to entrapment of hair with recurrent entrapment, infection, and drainage. Wide local excision with primary closure is usually associated with more wound complications and reported recurrence. Karydakis flap technique and Z plasty are the surgical option which are considered as the Gold Standard of PS treatment. But it has many issues like time consumption to heal, high anaesthesia, unaffordable to poor patients etc. The alternative method that uses *Kshara Sutra* is cost effective, having almost no chance of recurrence, no hospitalisation and can be done as outpatient and no need of high anaesthesia as evident from the reported case.

Key words: Karydakis flap technique, *Kshara sutra*, marsupialisation, Z plasty.

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Introduction

Pilonidal Sinus (PS) was first described by O.H. Mayo in 1833. It consists of one or more pits lined by squamous epithelium in the crease of the natal cleft leading to subcutaneous cavity lined by granulation tissue and containing a mass of loose hair. [1-2] The middle or primary pits appear to be the route of entry of foreign materials and hair. From the main underlying cavity hair may track subcutaneously giving rise to secondary cavities and openings on to the skin. Tracking most frequently occurs in a cephalad direction in the midline or laterally into the buttocks; in less than 10% the tracking is towards and to one side of the anus. [3] It is rare to find more than one or two tracks with such secondary openings.

It occurs most commonly in young adults between the ages of 18 to 30 with a male predominance of 70%. The war-time term 'jeep-seat' suggested a traumatic origin but civilian practice suggests that it is not so, although the sitting posture may be a contributory factor. Over 90% of the affected male patients have been noted to

have an excessive growth of hair in the glabella region. [4]

Various surgical and Para surgical techniques are now in practice for the management of PS. Incision and local excision with the middle line pits, extending into the central cavity and laying open lateral tracks. All the hair and foreign materials are removed and early bridging of the skin edges is prevented during frequent follow-up examinations. Some surgeon prefer to close wound (marsupialization) and some Prefer Laying open to allow granulation from base to top. [5]

Excision with reconstructive flap techniques are also most accepted. Karydakis flap technique and Z plasty are the surgical option which are considered the Gold Standards of PS treatment. This technique has been planned with the true patho-physiology of the disease in mind. It is the deepinter-gluteal fold which predisposes to PS and this architecture is materially altered with the Z plasty. [6-7]

In this study a para-surgical method, the *ksharasutra* therapy which is a common practice among Ayurveda surgeons to treat anal fistula was tried as an alternative against karydakis flap technique and Z plasty in pilonidal sinus. *Kshara sutra* is a sterile surgical linen thread which acts as a tool to cauterise chemically. It is prepared by repeated application of *kshara* (an alkaline plant product) on the above mentioned thread. *Kshara sutra* application through the sinus opening and the created opening is the conventional practice. *Kshara* paste application after wide excision of the pilonidal sinus is also being practiced.

Case report:

The current patient was a male aged 28 years having lot of body hair with a history of recurrent episode of abscess at the natal cleft with frequent surgery consultation was admitted in the Department of *Shalyatantra* (Surgery and orthopaedics), Govt. Ayurveda College, Trivandrum. Previous attempts with Incision and drainage under antibiotic coverage were failed and recurrence followed each time.

All pre-operative procedures were followed. He was placed in prone position; area was shaved and under aseptic precaution and under local anaesthesia the opening of the PS was probed with a malleable copper probe and taken out from the least resistant on other end; through which a *Kshara sutra* was applied. An artificial opening was made horizontally on either end of the longitudinal track having 3cm in length in opposite direction in Z shape (Fig-1). Kshara sutra was applied in the lower and upper limbs of the main track and the wound was dressed with Jathyadi grutham.

The wound was cleaned peripherally with Betadine solution and the ulcer area with *triphala kashaya* daily once in the morning. Every 5th day the three *kshara sutra* were replaced with a new one. *Kshara sutra* was prepared in the Department adopting the standard ksharasutra preparation method. Orally some medicines were given which we used to give as a standard protocol for anal fistula treatment which is as follows.

1. *Gugguluthikthakam kashayam*-90ml twice daily
2. *Kaishora guggulu* 1 gm three times a day with Luke warm water
3. *Guggulu panchapala choornam* 5 gm with honey twice daily

No antibiotics were prescribed but analgesics (diclophanic sodium) were given for few days. Tetanus toxoid injection was given as a mandatory precautionary measure.

The horizontal limb of the Z was cut through after the 3rd sitting and vertical main track needed 7 sittings (Fig-2). The wound healed completely after 2 months and after 6 months follow up it did not recur.

Fig-1: After *Ksharasutra* Application

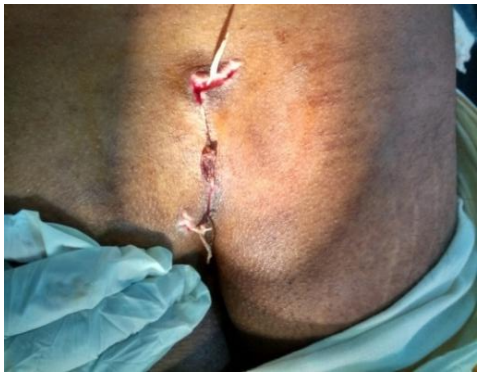

Fig-2: In progress after 20 days

Result and Discussion:

PS typically present with abscess or recurrent pain and drainage of the sacro-coccygeal region. Physical examination usually reveals pits in the midline of this area. These pits are the result of entrapment of foreign material (usually hair) with subsequent infection, suppuration and drainage and sinus track formation. Various treatment strategies for managing pilonidal disease have been employed. Most of these strategies focus on keeping the incision off the midline (where the wound is at risk of breaking down) and creating a shallow cleft. It is recommended to initially approach pilonidal disease with less extensive procedures, reserving more complicated approaches for patients who develop chronic pilonidal disease. Patients who present acutely with an abscess are often treated with an elliptical incision made lateral to the midline which incorporates all of the diseased tissue (including sinus tracts) and allows healing by secondary intention. The recurrence rate is 20% in this setting. [8]

The principles of management in this setting require excision of the sinuses and associated tracts. This can be done through incision and curettage of the tracts with or without marsupialisation with recurrence rates of up to 19%.This approach requires local wound care as the wound heals by

secondary intention. Wide local excision with primary closure is usually associated with more wound complications and reported recurrence rates of 11-29%. This dissection is taken down to the sacral fascia which likely contributes to the high incidence of wound complications by creating (or preserving) a deep cleft. Karydakis modified radical excision by proposing a curvilinear incision lateral to the midline with the creation of a gluteal flap and debridement of the sinus tract. This allows creation of a shallower cleft and keeps the wound off to the midline. Reported recurrence rates with this technique are less than 5%.

Zplasty is also similar to karydakis technique but in Zplasty fascio-cutaneous flap is dissected. Instead of adipose tissue flap wide excision and extensive loss of tissue has a risk of infection. Even though the recurrence rate is 5% all the present technique needs hospitalisation and spinal/general anaesthesia. But *ksharasootra* therapy doesn't need hospitalisation and hardly need only local anaesthesia. [9] Patients who are at risk for high anaesthesia, which are unable to afford the high cost of surgery, this *kshara sootra* therapy is more acceptable. More over while creating the longitudinal track we can keep away from the midline; there by recurrence chance can be avoided. [10]

Conclusion:

Existing treatment for PS is surgery which needs hospitalisation, time consuming and needs high anaesthesia. *Kshara sootra* therapy can be an alternative parasurgical technique which is cost effective, affordable and needs no hospitalisation or high anaesthesia. During the treatment period the patient can do his routine works and does not feel any strain.

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