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## A Conceptual Study of *Nadi Vrana* w.s.r to Pilonidal Sinus.

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### ABSTRACT:

Pilonidal sinus is a frequent condition of the natal cleft in the sacrococcygeal area that causes weak hair buildup in the hair follicles and can be chronic or acute. The patient complains of inflammation-related symptoms such as uncomfortable swelling, redness, elevated local temperature, or nasal discharge. Prolonged sitting, the existence of a deep birth cleft, obesity, hair irritation, and a family history of disease may all raise the risk of disease. It is connected to *Salyajanya Nadi Vrana* (pilonidal sinus), a form of *Nadi Vrana* (sinus) in Ayurveda. Whose etiology is addressed in Nidanasthana and therapeutic aspects in Susrutha Samhita's Chikitsasthana. Susrutha mentioned the use of *Kshara* (caustic alkali) and *Ksharasutra* (Seton) to treat *Nadivrana*. Despite the fact that *Nadivrana* is claimed to be *Kricchrasadhya* (difficult to cure), studies suggest that Ayurvedic therapy helps to lessen recurrence rate. As a result, successful management of this disease is dependent on knowledge of pathophysiology, patient presentation, and treatment aspects. The concept of *nadi vrana* w.s.r to pilonidal sinus was explained in this article in light of ayurvedic and modern view.

**Keywords:** - Pilonidal sinus, *Nadi Vrana*, *Ksharasutra*

### INTRODUCTION

Pilonidal sinus is a condition that most usually affects the hair follicles of the sacrococcygeal natal cleft. Males are twice as likely as females to be affected, and young adults of working age are disproportionately affected. Pilonidal sinus generally manifests as an abscess or a painful, continuously draining sinus passage.<sup>1</sup> The painful nature of the illness generates severe morbidity, frequently with a prolonged loss of normal activities, regardless of the route of presentation. The ideal treatment would be a speedy cure

that allowed patients to return to regular activities as soon as possible, with minimum morbidity and a low risk of consequences.<sup>2</sup> Chronic pilonidal disease treatment is diverse, disputed, and difficult. Treatment principles include for elimination of the sinus tract, full healing of the surrounding skin, and avoidance of recurrence.<sup>3</sup> Sacrococcygeal pilonidal sinus disease (SPSD) is a global condition that primarily affects young men and women. It has a high recurrence rate and can create substantial



complications if not treated properly in the initial setting. Males and army recruits have a greater frequency of the condition.<sup>4</sup> Because the recurrence rate after surgery is around 50% and 30%<sup>5</sup>, respectively, further treatments are required. According to Ayurveda, it is known as *Nadi Vrana*. '*Nadi*' refers to a tract, and '*Vrana*' refers to an ulcer.<sup>6</sup> So, a tract ulcer is referred to as a '*Nadi Vrana*'. Acharya Sushruta described a less invasive approach for the treatment of *Nadivrana* (Pilonidal sinus). Sushruta has stated that hair might be a root cause of sinus growth and has also provided numerous treatment approaches.

## MATERIAL & METHODS

The data about the Pilonidal sinus (*Nadi Vrana*) was gathered from Brihatrayi and its comments, Laghutrayi, and other Ayurvedic textbooks. A text book on current medicines and an index of peer-reviewed medical journals were used to acquire the relevant information.

### Conceptual Study

#### Ayurveda concept

In Ayurvedic texts, the pilonidal sinus is classified as *Nadivrana* (*shalya nimittaj*), which is produced by Shalya (i.e., a foreign substance). *Shalyaj Nadivrana* is a track that has gone undiscovered due to the presence of pus, unhealthy granulation tissue, and hairs, among other things.<sup>7</sup>

#### Nidan (Aetiology)

According to Ayurveda, the '*Nadi Vrana*' arises when the surgeon drains the *Apakwa Vrana Shopha* (immature abscess) rather than the matured *Vrana Sopha* (abscess), when the patient practises *Ahita Ahara* and *Vihara* (unhealthy food and lifestyle), and when the patient has *Salya* (foreign body).<sup>8</sup>

#### Samprapti (Pathogenesis)

According to Ayurveda, 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* (pus) discharge that is frothy (*Phenayukta*) and mixed with blood can be seen from this tract. The discharge is always linked with discomfort and worsens with movement of the part. This is known as the *Shalyajanya* form of *Nadivrana*.<sup>9</sup>

#### Types of *Nadi Vrana*

*Vataja*, *Pittaja*, *Kaphaja*, *Vata-Pittaja*, *Pitta-Kaphja*,

*Vata- Kaphja*, *Sannipataja* & *Shalyajanya* (*Agantuja Nadi Vrana*)

These are the eight types According to Susruta.<sup>10</sup>

According to Vagbhata it is of five types due to *Vata*, *Pitta*, *Kapha*, *Sannipathaja* and *Salyaja*.<sup>11</sup>

#### Treatment according to Ayurveda

Sushruta describes the *Samanya Chikitsa* (general therapy) of *Nadi Vrana* as follows:

- Sushruta has explained separate treatment for all types of *Nadi Vrana*.
- Use of *Pratisarneeeya Kshara* (caustic alkali) as a general therapy in all sorts of *Nadi Vranas* indicated when discussing the indications of *Pratisarneeeya Kshara* (caustic alkali).<sup>12</sup>
- Performing *Bhedana Karma* (Incision) in all forms of *Nadi Vrana* described when discussing the signs of *Bhedya Vyadhis*.<sup>13</sup>
- *Chedana* (Excision) is indicated in *Salya* (foreign body) lodged in *Mamsa* (flesh) in *Chedya Vyadhis* (excisional disease).<sup>14</sup>
- According to above, treatment principle for the *Nadi Vrana* can be summarized as follows. 1

Surgical- *Patana Karma* (incision)- *Patana Karma* signifies that a wise physician should first probe the *Nadi Vrana's Gati* (tract) and then determine the exact orientation of the track. The entire length of it should then be opened, followed by general *Shodhana Ropanadi* (cleaning and healing) operations. '*Patana*' is represented by Charaka in *Nadivrana and Antah-Salya* (foreign body inside body).<sup>15</sup>

#### Para-surgical technique - *Kshara Karma, Kshra Sutra.*

*Kshara Karma*- It is a method in which *Bhedana* (incision), *Chedana* (excision), and *Lekhana* (scraping) are conducted using specially compounded *Yogas* known as *Kshara* (caustic alkali). The patient is forced to lie down in a prone position. The tract is next probed to determine its length. An elliptical incision is created around the pilonidal sinus with a knife. The whole sinus tract will be removed all the way up to the presacral fascia. *Pratisarneeeya Kshara* will be used after the aforementioned *Chedana Karma*. Wait 100 *Matra Kala* (1 minute) after applying the *Kshara*, then cleanse the operation wound with *Jambeera Swarasa* (lime juice). During the postoperative period, daily dressings will be used until the incision is completely healed.<sup>16</sup>

***Kshara Sutra***- It is a unique method of excision that uses mechanical pressure and chemical action instead of a knife. Sushruta suggests using *Ksharasutra in Nadi Vrana* for patients who are emaciated, timid, and positioned in the *Marma Sthanas* (vital portions).<sup>17</sup> Probing is done via the hole, and the tract is tracked to its blind end, where an opening is formed. After feeding the *Kshara Sutra*, the probe was retrieved via the generated orifice and correctly ligated; weekly *Kshara Sutra* changes will be performed until the tract was severed.

### Modern concept

A pilonidal sinus is a small hole or tunnel in the skin at the top of the buttocks, where they divide (the cleft). It does not always cause symptoms and only needs to be treated if it becomes infected.<sup>18</sup>

### Etiology

Because of male sex hormone, hairy body, greater perspiration, and maceration, the pilonidal sinus has a 74% masculine preponderance. It is more common in children due to an active pilosebaceous gland. Because of their rigid hair, dark folks are less impacted.<sup>19</sup>

### Pathogenesis

The buttocks bear the weight of the body while sitting, causing vibration and friction. It induces hair shedding and consequently collects in the gluteal cleft and enters sweat glands. Dermatitis and irritation develop around the loose hair once the hairs first enter. Once the sinus has established, the area's occasional negative pressure may draw more loose hair into the pit.<sup>20</sup> Histological investigation supports the aetiology of pilonidal sinus as a foreign body response. It is seen as an acquired disorder as a result of hair implantation. This is the most widely held theory.<sup>21</sup>

### Management

Pilonidal disease can be treated conservatively and does not necessarily necessitate surgery. Conservative therapy for a pilonidal sinus is shaving any hair in the afflicted area (preferably with hair removal lotion) and keeping the area clean as much as possible. Any pilonidal abscess that forms must be treated like any other abscess, with incision and drainage +/- washout +/- packing. If the patient continues symptomatic, elective surgery for pilonidal sinus disease can be undertaken at a later date. The several minimally invasive treatments available for the treatment of pilonidal illness have the advantages of being generally atraumatic

and allowing the patient to resume work practically immediately. They are appropriate for tiny lesions that have not previously been surgically treated. These procedures have a greater recurrence rate than excisional treatments. It is unclear if minimally invasive methods using laser or endoscopic technologies can minimise the likelihood of recurrence. Off-midline techniques (the Karydak procedure, the Limberg procedure, and others) resulted in faster wound healing than excision with open wound treatment; off-midline techniques should thus be preferred for patients who have had previous surgery and for those with large lesions.<sup>22</sup>

## DISCUSSION

This minimally invasive therapy, *Ksharasutra*, offers promising results in the treatment of Pilonidal sinus. It reduces the likelihood of complications and recurrence and allows the patient to return to work and normal social activities as soon as feasible. It is an appropriate therapy for the patient in terms of treatment cost, degree of pain, and influence on body image. Pilonidal sinus illness is a chronic, painful ailment that can have an impact on one's self-esteem, body image, and personal relationships. Multiple studies have found that *Ksharasutra* therapy reduces both short-term and long-term recurrence of the illness, and it should be investigated in all cases. The healing and purifying properties of *kshar sutra* are assumed to be responsible for its action. The *kshar sutra* helped with wound drainage. Because *kshar sutra* has an alkaline pH, it has de-sloughing properties. *Kshar sutra*, as a whole, functions as a simultaneous cutting and healing technique. So, the healing was successful since no collection remained at the wound site. The use of *Kshara Sutra and Kshara* aids in the prevention of recurrence rates. Both treatments can be performed as outpatient operations. It is a non-invasive process. Among *Ashtavidha Sastra Karma*, it performs *Chedana, Bhedana, and Lekhana* properties.

## CONCLUSION

The treatment of the pilonidal sinus is difficult. There is no significant difference in recurrence rate between open and closed operational techniques, according to the evidence. The recurrence rate of *Ksharasutra and Kshara* application is relatively low since all pits next to the sinus track are destroyed. *Kshara* is anti-inflammatory and antimicrobial. Local hair removal and sitz bath play a significant part in lowering the recurrence rate.

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