

MANAGEMENT OF SHALYAJA NADI VRANA (PILONIDAL SINUS) BY GUGGULU  
APAMARG KSHAR- SUTRA: A CASE STUDYDr. Urvashi\*<sup>1</sup>, Dr. Sunil Kumar Joshi<sup>2</sup>, Dr. Ajay Kumar Gupta<sup>3</sup> and Dr. Vimal Kumar<sup>4</sup><sup>1</sup>P.G. Scholar 3rd Year, P. G. Dept. of Shalya Tantra, Rishikul Campus, Uttarakhand Ayurved University, Haridwar.<sup>2</sup>Honourable Vice Chancellor of Uttarakhand Ayurved University, Dehradun.<sup>3</sup>Professor and H.O.D. P. G. Dept. of Shalya Tantra, Rishikul Campus, Uttarakhand Ayurved University, Haridwar.<sup>4</sup>Assistant Professor, P.G. Dept. of Shalya Tantra, Rishikul Campus, Uttarakhand Ayurved University, Haridwar.**\*Corresponding Author: Dr. Urvashi**

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**ABSTRACT**

*Nadi Vrana* has been described by *Maharishi Sushruta* in *Nidana Sthana* and *Chikitsa Sthana* of *Sushruta Samhita*. *Shalyaja Nadi Vrana* which is one among the eight types of *Nadi Vrana* can be correlated with pilonidal sinus which occurs more often in males than females. People who are in younger age are most commonly affected. There are several methods to treat Pilonidal sinus but the recurrence rate is more in modern surgical interventions. Modern surgeons face many therapeutic challenges while treating the pilonidal sinus. So it is utmost priority to be acquainted with detailed description of *Shalyaja Nadi Vrana*, especially its etio-pathogenesis and management aspect through *Ayurveda*. *Maharishi Sushruta* described the various methods including 'Kshar-Sutra' and application of different kinds of medicated 'Taila' and 'Varti' for the management of *Shalyaja Nadi Vrana*.

**KEYWORDS:** *Shalyaja Nadi Vrana*, Pilonidal Sinus, *Kshar- Sutra*, *Varti*.**INTRODUCTION****Definition of Nadi Vrana**

When a completely suppurated swelling or abscess is left unopened due to fear and ignorance then the accumulated pus is unable to find an outlet will infiltrate into the deeper structure and form a large cavity or sinus,<sup>[1]</sup> single or multiple channels inside, so it is called as '*Nadi Vrana*'.

Detailed description of *Shalyaja Nadi Vrana* was described by *Acharya Sushruta* in *Nidana Sthana Visarpa-Nadi-Stanaroga Nidana Adhayaya*,<sup>[2]</sup> of *Sushruta Samhita* and in *Ampakveshniya Adhayaya* of *Sutra Sthana* of *Sushruta Samhita* where *Maharishi Sushruta* has described the pathogenesis of *Nadi Vrana* as a result of negligence of *Vrana Shoppa*,<sup>[3]</sup> '*Baal shalya*' (Hair) is considered as an important causative factor,<sup>[4]</sup> for the *Shalyaja Nadi Vrana*. It is characterized by discharge which is warm, red and frothy mixed with blood along with continuous pain,<sup>[5]</sup> Pilonidal Sinus is an acquired condition and generally seen in adult males.<sup>[6]</sup> It is often referred as 'Jeep disease',<sup>[7]</sup> because the condition was widespread in the United States army during World war II. When a person is in sitting position, the hairs were break due to friction and collect in natal cleft. Second most common cause of pilonidal sinus is toilet paper which is used for cleaning after passing the stool or faecal matter, and broken hair may be swept into the

inter gluteal cleft. These loose hairs travel down the inter gluteal furrow and penetrate the underlying soft and moist skin,<sup>[8]</sup> After that those broken hairs enter into the sudoriferous gland and result in formation of *Shalyaja Nadi Vrana*. This *Nadi Vrana* (sinus) is lined by stratified squamous epithelium and extends into the subcutaneous tissue. During surgical procedure, bunch of hairs is seen within the *Nadi Vrana* (sinus). Generally, the sinus extends from the surface of the skin up to the subcutaneous tissue,<sup>[9]</sup> Sinus passes upwards and forwards towards the sacrum, ends blindly and does not reach the bone.<sup>[10]</sup>

**Types of Nadi Vrana**

*Maharishi Sushruta* described eight types<sup>[11]</sup> of *Nadi Vrana*.

1. *Vataja*
2. *Pittaja*
3. *Kaphaja*
4. *Vata-pittaja*
5. *Pitta-kaphaja*
6. *Vata-kaphaja*
7. *Sannipataja*
8. *Shalyaja Nadi Vrana (Agantuja)*

According to *Acharya Vagbhatta*, it is of five types,<sup>[12]</sup> due to *Vata*, *Pitta*, *Kapha*, *Sannipataja* and *Shalyaja*.

**Signs and Symptoms**<sup>[13,14]</sup>

1. More common in males than females with a ratio of 6:1
2. Rarely seen in people over 40 years of age.
3. **Discharge**- Foul and purulent discharge.
4. **Pain**- Throbbing and persistent pain.
5. **Tenderness**- just above the coccyx in the midline (primary sinus), and on the either sides of the midline (Secondary sinus).
6. Bunch of hairs may be seen protruding through the opening of the sinus.
7. Presentation may be acute (abscess), or as a chronic one.

**Differential Diagnosis**

- Hidradenitis Suppurativa
- Pyoderma Gangrenosum
- Syphilis
- Anal fistula

**Other Body Places where Pilonidal Sinus may be found**<sup>[15]</sup>

1. Interdigital cleft of Men's hair dresser
2. Axilla
3. Umbilicus
4. Face
5. Inter digital web of the foot (worker in hair mattress factory).

**Risk Factors**<sup>[16]</sup>

Risk factors include stiff body hair, obesity, bathing habit of less than two times a week and sedentary occupation or life style and prolonged sitting.

**Complications**<sup>[17]</sup>

- Recurrent inflammation
- Formation of Abscess
- Recurrence of sinus formation

**Management**<sup>[18]</sup>

**In acute phase initially** – Drainage of the abscess, local antiseptic dressing, broad spectrum antibiotic.

**Definitive Treatment**

- Excision and primary closure of the sinus is done in 'Jack knife' position under general or local anaesthesia. To demonstrate the multiple track properly Methylene blue is injected to the sinus. All the sinus tracks, unhealthy granulation tissues along with hairs are removed completely.
- Excision with Z plasty
- V-Y gluteal advancement flap
- Karydakis Excision
- Excision with closure using Limberg (Rhomboid) buttock flap
- **Marsupialization of the sinus track**- In this technique after making incision on the sinus track, edges of the laid open area are sutured to the skin edge all around using silk or vicryl. Haemostasis is maintained and a pressure bandage is applied.

**Maharishi Sushruta** described various methods for the treatment of *Shalyaja Nadi Vrana* including *Kshar sutra*, viz.

**Tila Kalka**<sup>[19]</sup>

*Agantuja Shalya* (hair, pus, etc.) should be removed first from the track of Sinus by making an incision. After cleansing the channel, wound should be purified with the *Tila kalka* added with *Madhu* (honey) and *Gou-ghrta* (*ghee*) which leads to rapid healing of the sinus.

**Medicated Taila (Oil)**<sup>[20]</sup>

*Maharishi Sushruta* described various kind of *Taila* for the management of *Shalyaja Nadi Vrana*. *Taila* (Oil) cooked with the decoction of tender fruits various herbal drugs like *Kumbhika*, *kharjura*, *kapittha*, *bilva*, etc. and with the *Kalka* of *Nagarmotha* (*Musta*), *Nishotha*, *Priyangu*, *Sugandhika*, *Mochrasa*, *Naagkesera*, *Lodhra* and *Dhataki* flower. This oil applied for rapid healing of *Shalyaja Nadi Vrana*.

**Kshar- Sutra Method**<sup>[21]</sup>

*Kshar-sutra* ligation is a very effective method for the management of *Nadi Vrana*, especially for patients who are weak from mental and physical level, and the patients whose sinus is located in *Marma sthana*.

*Kshar-Sutra* is a medicated thread coated with herbal alkaline drugs like *Apamarga*, *Udumber*, *Nimba*, *Aragwadha*, etc. combined with *Guggulu* and *Haridra*. The standard *Apamarg Kshar Sutra* is prepared by repeated 21 coatings of *Snuhi Ksheer*, *Apamarg Kshar* and *Haridra Churna*. It is a safe, effective and unhazardous method for the treatment of *Shalyaja Nadi Vrana* (pilonidal Sinus).

**Application of Varti in the track of Shalyaja Nadi Vrana**<sup>[22]</sup>

*Varti* is made up of *Kalka dravya* of many herbal drugs like fruit bark of *Ziziphus* (*Jyotishmati*) and mixed with the latex of the *Snuhi* and *Arka*. This *Varti* leads to the rapid healing after introducing in the track of *Shalyaja Nadi Vrana*.

**Preventive Measures**<sup>[23]</sup>

- Local Hygiene- Shaving the area
- Maintenance of weight
- Diet and life style corrections
- Avoid prolonged sitting

**The Case Report**

A 24 years, male patient Mr. XXXX visited on 15/06/2019 in *Shalya* OPD, Registration Number SM-2055/24003 Department of *Shalya Tantra*, Rishikul Ayurvedic College and Hospital, Haridwar, with complain of a boil around natal cleft since last one year. He was asymptomatic one year ago. Gradually, he developed pain and swelling around natal cleft with intermittent fever on/off since two months. There was a lot of discomfort in sitting and daily routine work. He took some medication from nearby medical facility but

didn't get any relief. So he came to *Shalya Tantra* OPD in Rishikul Ayurvedic college and hospital, Haridwar for further treatment. Patient was a shoe shopkeeper by profession, always used to take mixed diet, and was having the sedentary life style. Because of improper lifestyle, he was not much aware for his health condition properly. His body was very hairy, and he developed a boil around natal cleft. General condition of the patient was fair and he was well oriented, and his vitals were normal. His blood pressure was 124/80 mm Hg. The patient's weight was 72 kg and height was 168 cm. There was no history of any surgical intervention. Patient had no any H/O of Hypertension, Diabetes mellitus, Tuberculosis or any other systemic illness. Patient was examined thoroughly and he was diagnosed a case of *Shalyaja Nadi Vrana* (Pilonidal Sinus). After proper counselling, the patient was planned for *Kshar- Sutra* Management by *Guggulu Apamarg Kshar-Sutra* ligation. Before the *Kshar-Sutra* ligation procedure, routine investigations along with HIV, HbsAg, HCV, Diabetes mellitus were also ruled out, which were found to be within normal limits. A written informed consent was taken before the procedure. The patient was shifted to the

operation theatre and made comfortable on the O.T. table in the prone position. Now the local examination was done to see the openings of the *Nadi Vrana*. On local examination opening of *Nadi Vrana* was found at the base of the natal cleft. Tenderness and Swelling was present around natal cleft. Induration was present around 5 cm away from the base of the natal cleft. Under all aseptic conditions, probing was done with the help of blunt and malleable probe, from the opening of the *Nadi Vrana* which came out from the indurated area along with pus mixed with blood which was cleaned and irrigated followed by *Apamarg- Kshar- Sutra* ligation. Dressing was done with *jatyadi Taila*. Patient was advised to take sitz bath daily and dressing with *jatyadi taila*. Patient was also advised to take laxative according to the need at bed time with luke warm water. *Apamarg Kshar sutra* was changed weekly and the process was continued till the complete cutting of the tract. Pain was gradually reduced and *Apamarg Kshar sutra* got cut through and complete healing occurred after 10 months. During the *Kshar- Sutra* period there was no complication was observed.



***Kshar Sutra* treatment in progress**



**After complete healing**

**DISCUSSION**

Pilonidal sinus is a therapeutic challenge. There is no standard or recommended elective management for pilonidal sinus in modern surgery, and the evidence supports that both open and closed operative approaches has no much difference in recurrence rate. *Kshar sutra* is very unique, minimal invasive treatment with minimizes complications. By doing *Kshar-Sutra* ligation, recurrence rate is quite negligible. It performs *Chedana*, *Bhedana* and *lekhana*<sup>24</sup> action, and induces healing without any adverse effects.

**CONCLUSION**

*Kshar- Sutra* helps in debridement of unhealthy granulation tissues, slough and also act locally as anti-fungal, anti-bacterial and anti-inflammatory mechanism. It also enhances the growth of healthy granulation tissue. It's gradual and sustained release chemical action not only removes the debris from the sinus but also help in encourage the fresh healthy granulation tissue. It does not only cure *Shalyaja Nadi Vrana* but is devoid of complications, no recurrence and allows the patient to work and participate in his normal routine activities. Thus *Guggulu Apamarg Kshar- Sutra* ligation can be safely used to manage patients suffering from *Shalyaja Nadi Vrana* (Pilonidal Sinus).

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