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MANAGEMENT OF NADIVRANA (PILONIDAL SINUS) BY KSHARA SUTRA THERAPY

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ABSTRACT
Nadi Vrana, also known as Pilonidal sinus is a frequent illness in tropical regions. Nadi Vrana is linked to the occurrence of several cavities or recesses in an ulcer that has a path that extends into the deeper tissues. Nadi Vrana is synonymous with Gati. Gati is the term used to describe conditions where there is an extensive infiltration of pus due to unsanitary conditions. Despite the enormous advancements made in the field of modern surgery, it is still a difficult and problematic condition. According to the clinical approach taken by contemporary surgeons, Nadi Vrana has been treated incorrectly, ineffectively, with post-operative problems and complaints of recurrences in the majority of cases. Out of many treatment options for pilonidal sinus, Kshar Sutra Therapy is the most preferred because of high success rates, no complications and very low recurrences. A lot of patients are getting cured through this ayurvedic para-surgical technique from around the globe.

KEYWORDS: Nadi Vrana, Kshar Sutra, Pilonidal Sinus, Parasurgical Procedure.

INTRODUCTION
The word nadi implies a tunnel or tube like structure and the nadi vrana is treated as sinus. Sinus is a blind tract lined by granulation tissue or epithelium. Pilonidal sinus is quite similar to shalyaj nadi described in Ayurveda. Pilonidal means nest of hair & it is derived from the Latin word for hair (pilus) and nest (nidus)[1], it is a benign disease that occurs in young adults in the age group of 15-30 years after puberty when sex hormones are known to affect pilosebaceous glands & change healthy body hair growth.[2] Pilonidal sinus is a short tract leading from an opening in the skin near natal cleft region or intergluteal region containing hair usually presented during third decade. As far as the management of pilonidal sinus is concerned various treatments have been developed so far by modern medical science.

A sinus is described as a blind channel that descends into the tissue from the surface and is lined by either granulation tissue or epithelial tissue. It continues as a result of an infection, non-dependent drainage, and deep foreign bodies (sequestrum, suturing material, etc.)[3] The tract is protected against collapsing since it is lined with epithelium and has thick fibrosis. If left untreated, aNadiVranacan develop into a fistula by penetrating the tissue deeper and deeper.

The treatment of Pilonidal sinus may be categorized under two headings- conservative management if the condition is not supervened by infection and surgical management if infected. Conservative management includes rest, baths, local antiseptic dressings, and administration of broad-spectrum antibiotics. Surgical intervention may also be categorized into two, open surgery and closed surgery. All sinus tracks, unhealthy granulation tissue and hairs are removed completely. The different methods used for the surgical management of the condition are as mentioned below.

a) Wide excision This is a safe procedure with a recurrence rate of 15%, where the skin along with the snus tract is removed with a wide bore local excision. The only disadvantage is that the wound size is large and takes a longer healing time of about 6 weeks with daily dressing.
b) Excision with Z-plasty In this method the surgeon loosens triangular flaps on each side of the midline to fill the cavity with points of flap towards the head and foot. It is the deep intergluteal fold that predisposes to pilonidal sinuses and this architecture is materially altered with Z-plasty. This method has shown good results, but the chances of flap necrosis are its disadvantage.

c) Karydakis excision Developed by Greek surgeon, George Karydakis, this method changes the shape of the actual cleft to a shallow one and allows for better healing. The surgeon removes all the diseased tissues and makes the wound healthy. The resultant defect, an ellipseshaped cavity lies on one side parallel to the cleft. The edges of the skin are freed up a little and the wound is closed with multilayered stitches. By almost flattening the cleft the gathering of the loose hair is less likely and it doesn't favor the growth of anaerobic bacteria as well.
d) Limberg Rhomboid flap method This method is adopted in patients who have extensive Pilonidal sinus affecting both sides of the buttocks. the surgeon removes an oblong-shaped plug containing the abscess, skin, and fat, thus creating a cavity. To fill the cavity, a flap of skin and thick fat is mobilized from the buttock beside and below the cavity. The flap is swung into the center and the edges are sutured.
e) VY Flap method It is an advanced flap technique that achieves the suture line away from the midline, obliteration of natal fold and coverage of defect without tension. It has the advantage of a robust blood supply and better healing effects.
f) Laser Pilonidoplasty This is a minimally invasive procedure carried out by Leonardo laser. A small cut is made on the skin and all the pus is drained out. The entire sinus tract is then sealed with the laser fibre. The patient is discharged within 24 hours and can return to routine work by the 5th day. Wound healing occurs in about 6-8 weeks and thus recovery is much faster as compared to conventional Wide excision. The recurrence rate is negligible
g) Buie's marsupialization of the sinus track The sinus track is incised, and edges are sutured to the skin edge all around using silk or vicryl. This reduces the healing time and promotes healing.
h) Davies and Starr buttock skin flap rotation In this method buttock skin flap is rotated into the defect and the secondary defect is closed at a later stage.
i) Lord and Millers limited excision of primary track The primary track is excised to 0.5 cm depth, the tuft of hair along with unhealthy granulation tissue and debris are removed using a tiny brush and nylon bristle and allowed to heal.
j) Bascom technique of excision Sinus is approached through multiple small lateral incisions and pus and hairs are removed and cleansed. These lateral incisions are either sutured or left open for spontaneous healing to happen.
k) Injection of phenol into the track This is done after the removal of hairs. Phenol is allowed to be in contact with epithelium for 3 minutes to create a branch in the track orifice.
l) Lahey and Cattell's relaxing skin incisions This is done on one buttock to relieve tension on main wound sutures with later closure secondary wounds by sutures or flaps.

Nadivrana

Nadi means a reed, vrana denotes an ulcer. Thus, Nadivrana is an ulcer having a track. Acharya Vagbhata enumerates that in conditions where a Pakwa shopha8 is left untreated or the patient continues Mithya ahara vihara or is afflicted by a Shalya, then there are chances of developing a Nadivrana. As a Pakwa shopha is neglected, the Puya collected inside further penetrates deep into Ashta sthanas9 of vrana namely twak, mamsa, sira, snayu, sandhi, asthi, Koshtha and Marmas eventually resulting in the manifestation of Nadivrana.

Management of Nadi Vrana as per Ayurveda

Pilonidal sinus also termed as Nadi Vrana in Ayurveda is best treated by kshar sutra therapy. In kshara sutra therapy, threads are smeared with Ayurvedic herbs before using them to treat the disease (the thread is placed inside the pilonidal sinus and replaced with a new one after every 7 days). The entire kshara sutra therapy takes between 4-8 weeks (depending on the severity of the condition) to complete. The kshara sutra therapy treat the pilonidal sinus along with the formation of new tissues.

DISCUSSION

Nadivrana is a track containing Puya which has entered the underlying structures. Among the 5 types of Nadivrana, Shalyaja Nadivrana holds good for Pilonidal sinus as the Shalya here is Bala or hair which is mentioned as one among different Shalya by Acharya Sushruta. As mentioned in the classics, when a Pakwa shopha is left untreated it traverses to the deeper tissues resulting in Nadivrana. Hence an intelligent surgeon should be able to diagnose the Pakwa avastha of any swelling to render the apt treatment. Pilonidal sinus is a very common problem encountered in clinical practice. Even though the most common site of Pilonidal sinus is at the natal cleft, it can also be present at various other parts of the body. There is continued debate over the pathogenesis of Pilonidal Sinus and subsequently, around 17 surgical methods of management are developed to date. Despite all the advancements in the field of medicine and surgery, there is no perfect method explained for the treatment of Pilonidal sinus. Whereas the treatment methods cited by Acharya Sushruta like Varti prayoga, Ksharasutra prayoga and Shastra karma holds good even to date in providing relief and preventing the recurrence of the condition.

CONCLUSION

Pilonidal disease is a complex condition that causes both discomfort and embarrassment to sufferers, and imposes direct costs to the healthcare system and indirect costs to society through absence from work. ksharsutra therapy is one of the most important therapeutic procedures described in Ayurveda. This minimal invasive procedure has very good potential in the management of pilonidal sinus or nadi vrana. Therapy has its origin from Ayurveda and it is well accepted by the patients of all age. When it comes to treat people who panic or abstain

from surgery, this therapy helps a lot with remarkable results.

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