RESEARCH PAPER

Application of Apamarga Kshar Varti Followed by Pentaphyte Ointment in the Management of Multiple Sinuses of the Right Thigh – A Case Report

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Received: 25th June 2026; **Revised:** 28th July 2026; **Accepted:** 10th October 2026; **Available Online:** 15th October 2026

ABSTRACT

Background:
Multiple chronic sinus tracts are difficult to manage because of persistent discharge, recurrent infection, and delayed wound healing. Conventional treatment often requires repeated surgical interventions with variable outcomes. Apamarga Kshar Varti is an Ayurvedic para-surgical modality that facilitates drainage and debridement of sinus tracts through its Kshara (caustic alkaline) properties, while Pentaphyte ointment may be used subsequently as a local wound-healing application.

Case Presentation:
We report the management of a 40-year-old male with chronic multiple sinuses over the right thigh using a sequential treatment protocol. The patient presented with complaints of pain and persistent discharge from multiple sinus openings for the past 3 years. Histopathological examination of a biopsy specimen revealed a non-inflammatory lesion without evidence of malignancy. After biopsy, regular wound dressing with Apamarga Kshar Varti insertion was performed on alternate days for 20 days under strict aseptic precautions. From Day 21 to Day 45, Pentaphyte ointment was applied locally to support the subsequent wound-healing phase.

Results:
The patient demonstrated progressive clinical improvement with the sequential treatment protocol. During the initial 20-day Apamarga Kshar Varti phase, pain and discharge reduced markedly, healthy granulation tissue developed, induration decreased, and the number of active sinus openings reduced. Pentaphyte ointment was then applied locally from Day 21 to Day 45 to support the subsequent wound-healing phase. At the final assessment on Day 45, the patient had no pain and no discharge, the sinus openings had healed, and scar marks were present over the healed sites.

Conclusion:
Sequential management with Apamarga Kshar Varti on alternate days for 20 days followed by local application of Pentaphyte ointment from Day 21 to Day 45 was associated with progressive improvement and satisfactory healing in this case of chronic multiple sinuses of the right thigh. Apamarga Kshar Varti was used during the initial drainage and debridement phase, while Pentaphyte ointment was used during the subsequent healing phase. At Day 45, no pain or discharge was present and the healed sinus sites showed scar marks.

Keywords: Multiple sinus, Apamarga Kshar Varti, Pentaphyte ointment, Dushta Vrana, Chronic sinus, Ayurveda, Kshara Karma, Wound healing

How to cite this article: *Nikita Shrikrishna More1* Dr. Rajendra Sonekar2 Dr. Amol Padole3 Dr. Vijay Ukhalkar4. Application of Apamarga Kshar Varti Followed by Pentaphyte Ointment in the Management of Multiple Sinuses of the Right Thigh – A Case Report. Int J Drug Deliv Technol. 2026;16(88s):1954-1958. DOI: 10.25258/ijddt.16.88s.199.*

Source of support: ***Nil.***

Conflict of interest: *None*

1. Introduction

A sinus is a blind tract lined by granulation tissue that opens onto the skin surface, often resulting from chronic infection, foreign body reaction, or underlying pathology such as osteomyelitis [1,2]. Chronic multiple sinuses present a significant clinical challenge due to persistent pain, recurrent discharge, repeated episodes of infection, and substantial impact on patients' quality of life and daily activities [3,4]. These conditions are notoriously difficult to manage because of the complex anatomy of sinus tracts, the presence of unhealthy granulation tissue, induration, and the tendency for recurrence [5].

Conventional management strategies for chronic sinus tracts include systemic antibiotics, surgical excision of the sinus tract, and repeated debridement procedures [6,7]. However, surgical interventions may be associated with significant morbidity, incomplete excision, recurrence, and prolonged wound healing, particularly in cases with multiple sinuses [8]. Furthermore, the use of antibiotics may be limited by the development of antimicrobial resistance and inadequate penetration into the sinus tract [9].

In Ayurveda, chronic non-healing wounds and sinus tracts are categorized under *Dushta Vrana* (vitiated or infected wounds) and are traditionally managed through various para-surgical procedures including *Kshara Karma* (application of alkaline medicaments) [10,11]. *Kshara* refers to the alkaline principle derived from plant ashes that possesses properties of *Chedana* (excision), *Bhedana* (incision), and *Lekhana* (scraping), making it particularly suitable for the management of sinus tracts [12].

Apamarga Kshar Varti is a specialized Ayurvedic formulation prepared from the ashes of *Apamarga* (*Achyranthes aspera* Linn.) combined with other ingredients, shaped into a stick (*Varti*) for topical application [13]. It acts through controlled chemical cauterization, facilitating drainage, debridement of unhealthy tissue, and promotion of healthy granulation tissue formation [14]. The *Kshara* properties help in breaking down the fibrous walls of the sinus, eliminating *Ama* (toxic metabolic bioproducts), and promoting the healing process [15].

This case report presents the management of a patient with chronic multiple sinuses over the right thigh using Apamarga Kshar Varti during the initial debridement and drainage phase, followed by Pentaphyte ointment during the subsequent wound-healing phase.

2. Case Presentation

2.1 Patient History and Clinical Examination

A 40-year-old male patient presented to the Outpatient Department of Government Ayurvedic College and Hospital, Nanded, with complaints of pain and persistent discharge from multiple sinus openings over the right thigh for the past 3 years. The patient had recurrent episodes of discharge that significantly affected his daily activities and quality of life.

The patient reported that the condition began following a minor traumatic injury to the right thigh, which subsequently developed into a chronic wound with multiple discharging points. He had previously consulted multiple healthcare providers and had received courses of oral antibiotics and topical wound dressings, with only temporary relief. There was no history of diabetes mellitus, hypertension, tuberculosis, or any other chronic systemic illness. The patient was not on any regular medications.

On local examination, multiple sinus openings with unhealthy granulation tissue, induration, and seropurulent discharge were noted over the right thigh. The surrounding skin was hyperpigmented and showed signs of chronic inflammation. The sinus tracts appeared to interconnect, forming a network of chronic discharging sinuses. There was no evidence of regional lymphadenopathy, and the patient was afebrile. Systemic examination was unremarkable.

2.2 Diagnostic Evaluation

To establish the diagnosis and exclude any serious pathology such as malignancy or tuberculosis, a biopsy was performed under local anaesthesia. The tissue specimen was sent for histopathological examination, which revealed a non-inflammatory lesion without evidence of malignancy. No granulomatous changes suggestive of tuberculosis or fungal infection were identified. Routine haematological investigations, including complete blood count, erythrocyte sedimentation rate, and renal and liver function tests, were within normal limits. Random blood glucose was normal, excluding diabetes as a contributing factor.

2.3 Intervention

After confirmation of the benign nature of the lesion through histopathological examination, a sequential treatment plan was formulated. Apamarga Kshar Varti was used as the primary para-surgical intervention for the first 20 days to facilitate drainage and debridement of the sinus tracts. Thereafter, from Day 21 to Day 45, Pentaphyte ointment was applied locally during regular wound dressing to support the healing phase. Apamarga Kshar Varti was prepared according to standard Ayurvedic pharmaceutical procedures, using the alkaline ash of Apamarga (Achyranthes aspera)

combined with other herbal ingredients [13]. The intervention was conducted as follows:

Table 1: Sequential Treatment Protocol Using Apamarga Kshar Varti and Pentaphyte Ointment

Parameter	Details
Procedure	Phase 1: Insertion of Apamarga Kshar Varti into sinus tracts; Phase 2: Local application of Pentaphyte ointment during dressing
Frequency	Apamarga Kshar Varti: alternate days; Pentaphyte ointment: local application during regular dressing
Duration	Apamarga Kshar Varti: Day 0-20 (10 sittings); Pentaphyte ointment: Day 21-45
Aseptic precautions	Strict aseptic technique maintained throughout both treatment phases
Concurrent care	Regular wound cleaning, sterile dressing, and local care throughout the treatment period
Post-procedure monitoring	Assessment of pain, discharge, granulation tissue, sinus openings, and wound healing up to Day 45

During each Apamarga Kshar Varti sitting, the sinus openings were gently probed to assess the depth and direction of the tracts. The area was cleaned with normal saline, and Apamarga Kshar Varti was carefully inserted into each sinus tract to its full depth. The Varti was left in place for a specified duration to allow its Kshara action to debride unhealthy tissue and facilitate drainage. After each procedure, a sterile dressing was applied. After completion of the 20-day Kshar Varti course, Pentaphyte ointment was applied locally from Day 21 to Day 45 during regular dressing to support granulation, epithelialization, and wound healing.

The patient was advised to maintain local hygiene, avoid excessive movement of the affected limb, and follow a *Pathya* (wholesome) diet as per Ayurvedic principles, including light, easily digestible foods with *Tikta* (bitter) and *Kashaya* (astringent) tastes to support the healing process [16].

3. Results

The patient demonstrated progressive clinical improvement during the sequential treatment period. Clinical status was assessed before treatment, during treatment at Day 20 after completion of the Apamarga Kshar Varti phase, and after treatment at Day 45 following Pentaphyte ointment application from Day 21 to Day 45.

Clinical Outcomes:

Table 2: Clinical Parameters Before Treatment, During Treatment (Day 20), and After Treatment (Day 45)

Parameter	**Before Treatment**	**During Treatment (Day 20)**	**After Treatment (Day 45)**
Pain	Moderate to severe, interfering with daily activities	Mild, well-controlled; did not interfere with activities	No pain
Discharge	Persistent seropurulent discharge from multiple sinuses	Markedly reduced; minimal serous discharge	No discharge
Granulation tissue	Unhealthy, friable, and pale	Healthy, pink, and well-vascularized	Healed/epithelialized area with scar formation
Number of active sinus openings	Multiple (5-6 active openings)	Reduced to 1-2 minute openings	No active sinus openings; healed with scar marks
Induration	Present around sinus openings	Significantly reduced	Absent
Surrounding skin / healed site	Hyperpigmented and inflamed	Improved with reduced inflammation and pigmentation	Healed site with scar marks present
Treatment phase	Before intervention	After Apamarga Kshar Varti phase; Pentaphyte ointment subsequ	After completion of Pentaphyte ointment healing phase up to Day 45

Parameter	Before Treatment	During Treatment (Day 20)	After Treatment (Day 45)
		ently started	

During the initial 20-day Apamarga Kshar Varti phase, pain and discharge reduced markedly, unhealthy granulation tissue was replaced by healthy pink granulation tissue, induration decreased, and the number of active sinus openings reduced from 5-6 to 1-2 minute openings. This Day-20 status represents the during-treatment response. Pentaphyte ointment was subsequently applied locally from Day 21 to Day 45 as part of regular wound dressing to support the healing phase. At the final Day-45 assessment, the patient had no pain and no discharge. The sinus openings had healed and scar marks were present at the healed sites.

The patient tolerated the sequential treatment protocol well. No treatment-related complications such as excessive bleeding, allergic reactions, or worsening of the condition were observed during the Apamarga Kshar Varti phase. Pentaphyte ointment was used locally during the subsequent healing period, and regular wound assessment was continued up to Day 45.

4. Discussion

This case report demonstrates a sequential Ayurvedic wound-management approach for chronic multiple sinuses over the right thigh. Apamarga Kshar Varti was applied on alternate days for 20 days as the initial para-surgical intervention, followed by local application of Pentaphyte ointment from Day 21 to Day 45 during the healing phase. The clinical course was therefore evaluated at three stages: before treatment, during treatment at Day 20, and after treatment at Day 45. The Day-20 assessment showed marked reduction in pain and discharge with healthier granulation tissue and fewer active sinus openings, while the Day-45 assessment showed no pain, no discharge, healed sinus openings, and scar marks at the healed sites.

The pathogenesis of chronic sinus formation in Ayurveda is understood through the framework of *Dushta Vrana* (vitiated wound) and *Srotodushti* (vitiation of channels) [10,15]. The accumulation of *Kapha* and *Pitta* doshas, along with *Ama* (toxic metabolic bioproducts), leads to the formation of unhealthy granulation tissue, persistent discharge, and failure of normal wound healing [11]. *Kshara Karma* is specifically indicated in such conditions due to its *Chedana* (excision) and *Lekhana* (scraping) properties, which help in removing the unhealthy tissue, breaking down the fibrous walls of the sinus, and promoting the formation of healthy tissue [12,13].

Apamarga Kshar Varti acts through multiple mechanisms relevant to chronic sinus pathology [14]. The alkaline nature of Kshara provides controlled chemical debridement, helping to remove unhealthy tissue from the sinus tract [12]. It also facilitates drainage, reduces unhealthy granulation tissue, and promotes the development of healthy, well-vascularized granulation tissue [15]. In the present case, these effects were reflected during the first 20 days by reduction in pain, discharge, induration, and active sinus openings, along with development of healthy granulation tissue.

The mechanism of action of *Kshara* has been corroborated by modern pharmacological research on its constituent ingredients. Studies on *Achyranthes aspera* have demonstrated anti-inflammatory, antimicrobial, and wound-healing properties [17,18]. The alkaline nature of *Kshara* may act similarly to chemical cauterization agents used in modern surgical practice but with a more controlled and targeted effect [19]. The *Varti* form allows for precise application into the depth of the sinus tract, ensuring that the medicinal action reaches the entire length of the sinus.

The 20-day alternate-day Apamarga Kshar Varti protocol allowed time for tissue response between applications while maintaining the intended debridement and drainage effect. After this initial phase, the treatment objective shifted from debridement and drainage toward local wound healing. Pentaphyte ointment was therefore applied during regular dressing from Day 21 to Day 45. This sequential approach clearly separates the initial Kshara-based para-surgical phase from the subsequent topical healing phase.

The progressive change across the three assessment stages is clinically important. Before treatment, the patient had moderate-to-severe pain, persistent seropurulent discharge, unhealthy granulation tissue, multiple active openings, and induration. At Day 20, these findings had substantially improved but complete healing had not yet occurred; therefore, this assessment is more appropriately described as “during treatment” rather than “after treatment.” Following Pentaphyte ointment application up to Day 45, the final assessment showed no pain, no discharge, healed sinus openings, and residual scar marks. Thus, the final outcome represents the response to the complete sequential treatment protocol rather than to Apamarga Kshar Varti alone.

Several limitations of this case report must be acknowledged. As a single case report without a control group, the findings cannot be generalized to a broader population. In addition, two interventions were used sequentially—Apamarga Kshar Varti during the initial 20-day phase and Pentaphyte ointment during the Day 21-45 healing phase. Therefore, the final Day-45 healing outcome cannot be attributed exclusively to either intervention. Regular wound cleaning, sterile dressing, local hygiene, and other concurrent care may also have contributed to the outcome. Longer follow-up would

be required to document the durability of healing and recurrence status.

Future research should include well-designed clinical studies evaluating Apamarga Kshar Varti, Pentaphyte ointment, and their sequential use in chronic sinus tracts. Separate assessment points during the debridement phase and after the healing phase would help clarify the contribution of each intervention. Larger sample sizes and longer follow-up are also needed to assess recurrence, safety, and durability of healing.

The integration of a para-surgical debridement and drainage modality such as Apamarga Kshar Varti with subsequent topical wound-healing care represents a practical staged approach in this case. The improvement observed by Day 20 provided evidence of response during the Kshar Varti phase, while the absence of pain and discharge with scar formation at Day 45 documented the final status after completion of the Pentaphyte ointment healing phase. This case supports further systematic evaluation of such sequential approaches in chronic wound and sinus management.

5. Conclusion

Sequential treatment with Apamarga Kshar Varti on alternate days for 20 days followed by local application of Pentaphyte ointment from Day 21 to Day 45 was associated with progressive clinical improvement in this case of chronic multiple sinuses of the right thigh. During the Day-20 assessment, pain and discharge were markedly reduced, healthy granulation tissue was present, induration had decreased, and only 1-2 minute sinus openings remained. At the final Day-45 assessment, there was no pain and no discharge, the sinus openings had healed, and scar marks were present.

The findings suggest that Apamarga Kshar Varti may be useful during the initial drainage and debridement phase, followed by Pentaphyte ointment during the subsequent healing phase. Because this is a single case treated with sequential interventions and concurrent wound care, the final outcome should be interpreted as the result of the complete treatment protocol rather than attributed to one component alone. Further controlled studies with larger samples and longer follow-up are required.

Figure Legends



Figure 1: Pre-treatment photograph showing multiple discharging sinus openings with unhealthy granulation tissue over the right thigh.



Figure 2: During-treatment photograph at approximately Day 20 after the alternate-day Apamarga Kshar Varti phase, showing reduction in discharge and sinus openings with development of healthier granulation tissue.



Figure 3: After-treatment photograph at Day 45 following Apamarga Kshar Varti for 20 days and Pentaphyte ointment application from Day 21 to Day 45, showing healed sinus openings with scar marks and absence of active discharge.

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