



Case Report

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ROLE OF MADHUYUKTA KRISHNATILA KALKA IN THE MANAGEMENT OF SHUDDHA VRANA: A CASE REPORT

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ABSTRACT

Vrana, which has an appearance of a protruded tongue, non-indurated, shiny, less or non-painful, even surfaced, with scanty or no discharge, is considered as Shudhavrana (healing ulcer). Acharya Sushruta described sixty different upakramas for managing various types of wounds. Wound healing is a complex mechanism. Various factors such as wound contamination, vascular insufficiency, foreign bodies, infection, malnutrition, Immune deficiency diseases like diabetes mellitus, and excessive use of steroids affect wound healing. For the Vrana to heal, Ropana Upakrama must be adopted. For the Ropana (healing) to occur, Shodhana (cleaning) of the Vrana is very much essential. Kalka is one such locally used formulation that helps with both Shodhana and Ropana of the Vrana. Here is a case report of a 60-year-old male diabetic patient diagnosed with a venous ulcer at the right ankle for 3 months after a Road Traffic Accident. The patient was treated with a local dressing of Madhu yukta Krishna tila kalka for 33 days, during which he achieved complete healing of the ulcer. The ulcer assessment was made using Bates and Jensen Wound Assessment Tool at an interval of 7 days till complete healing was achieved. There was drastic improvement in granulation tissue formation, ulcer contraction within the 7th day of application, though complete healing was achieved on the 33rd day of application. This case report presents successful validation of the effects of Ropana Kalka.

Keywords: Madhu Krishnatila Kalka Shudhavrana Ropana

INTRODUCTION

Skin, the largest organ in the human body, plays a crucial role in sustaining life by regulating water and electrolyte balance and thermoregulation, and by acting as a barrier to external noxious agents, including micro-organisms. When this barrier is disrupted due to any cause - ulcers, burns, neoplasm or trauma - these functions are no longer performed adequately. It is therefore vital to restore its integrity as soon as possible. Wounds are everywhere, occurring in the young and elderly and affect patients in every clinical speciality around the world.

Among the various complications of lower extremity chronic venous insufficiency, venous ulcer remains the commonest, with a prevalence of 1.08%.¹ Quality of life of the patient is impaired drastically due to pain and discharge associated with the ulcer, leading to self-isolation, depression, and low self-esteem.² It is also one of the causes of morbidity, causing turmoil over the economic and personal life of the patient.³ Even though healthcare facilities have improved in all developing nations, the incidence of the disease remains 3.33% with a reported recurrence rate of 70%.⁴ While there are few Indian studies on the epidemiology of chronic wounds, one study estimated the prevalence at 4.5 per 1000 population.⁵

Two of the most important cornerstones in the care of any ulcer are debriding healable wounds by removing non-viable, contaminated, or infected tissue (through surgical, autolytic, enzymatic, mechanical, or biological methods. Assessing and treating wounds with increased bacterial burden or infection. The basic objective of any health care system is to improve physical and mental health across communities through effective interventions. The vast medical knowledge of ancient Ayurveda

remains largely unexplored. Sushruta – the Father of Indian surgery, has explained Vrana (Ulcers), its complications, and 60 procedures for its management in great detail. Among them, Vrana Shodhana (wound cleansing) and Vrana ropana (wound healing) modalities were also explained.⁶ Different forms of external applications (lepas) are described for the convenience of treatment of different diseases like lepa kalpanas.⁷ Hence, here an attempt is made to manage a Shuddha Vrana with Ropana Kalka Madhuyukta Krishna Tila kalka.

MATERIALS AND METHOD

Patient Information: A case report of a 60-year-old male patient K/C/O DM under medication since 4 years, complaining of a non-healing ulcer over the right ankle since 3 months after a Road Traffic Accident. The patient was treated in a private allopathy hospital regularly with local dressing, oral antibiotics and NSAIDs. He was advised dietary changes, continuation of anti-diabetic medication, SOS NSAIDs, and daily dressing of the ulcer with Povidone-Iodine ointment. On 23rd Dec 2025, he came to the Shalyatantra OPD of Sri Dharmasthala Manjunatheshwara College of Ayurveda and Hospital, Kuthpady, Udipi, Karnataka, to seek Ayurvedic medications to help heal the ulcer.

Clinical findings on Local examination

The CEAP Classification- C6, E_{se}, Ap, Po – active venous ulcer.

Inspection (Darshana) -1 ulcer on Right medial malleolus, round-oval in shape, dimensions of 4.5cm x 4.5 cm x 1 mm, pale granulated floor, sloping edge, serosanguineous scanty discharge.

Palpation (Sparshana) – Ill-defined margin, Impaired local sensations, peripheral arterial pulsations intact. Mild tenderness (VAS 4). No lymphadenopathy / local oedema / local rise of temperature / bleed on touch.

Diagnostic Assessment: Based on clinical examination, the case was diagnosed as a venous ulcer in a diabetic patient. The clinical staging of vrana was Shuddha Vrana with the following features - Jihwatalabha, Vigatavedana, Suvyavasthita, Nirasrava.

Investigation: Hemogram, Renal Function Test, Liver Function Test – All under normal limits.

Tested Negative for serological tests – HIV and HBsAg. HbA1c – 6.4 %, FBS -123mg / dL, PPBS -144mg/dL

Therapeutic Intervention: The vranashodhana ropana upakrama was carried out after obtaining informed consent from the patient before the procedure. The ulcer was cleaned with normal saline, and a freshly prepared Madhu Yukta Krishna Tila

Kalka was applied. The Kalka was retained for about 20 minutes. Later, it was removed, the area was cleaned again with normal saline, and it was dressed with sterile dry gauze. In this manner, Kalka was applied and dressings were changed once a day for 33 days, until the ulcer healed completely.

The patient was advised to continue the anti-diabetic tablet combination of Glibenclamide 5mg and Metformin hydrochloride 500 mg 1-0-0. No additional Ayurveda medications were administered.

The assessment was carried out on the 1st, 7th, 14th, 21st, 28th, and 33rd days of treatment using the Bates and Jensen Wound Assessment Tool and the Visual Analogue Scale.

Follow-up after 1 month for recurrence of the ulcer.

OUTCOME AND FOLLOW UP

Bates And Jensen Wound Assessment Tool ⁸						
Parameters	Day 1 23/12/25	Day 7 29/12/25	Day 14 5/1/26	Day 21 12/1/26	Day 28 19/1/26	Day 33 24/1/26
Size	2	2	2	1	1	1
Depth	2	2	2	2	1	1
Edges	2	2	1	1	1	1
Undermining	1	1	1	1	1	1
Necrotic tissue type	1	1	1	1	1	1
Necrotic tissue amount	1	1	1	1	1	1
Exudate type	4	4	3	1	1	1
Exudate amount	3	2	2	1	1	1
Skin colour surrounding wound	3	3	1	2	1	1
Peripheral tissue edema	2	2	2	2	1	1
Peripheral tissue induration	2	1	1	1	1	1
Granulation tissue	4	3	3	2	2	1
Epithelialization	5	4	3	2	1	1
Total score	32	27	22	17	14	13
Pain (VAS)	4	2	2	0	0	0

Follow-up on 24/2/26 (one month after complete healing of ulcer)– No recurrence

RESULT

The study showed major improvement, with Pain reduced from 4 to 2. A gradual reduction of size from 4.5 cm to 3 cm on 21st day, 2 cm on 28th day, complete healing on 33rd day. The even depth changed to tissue damage with no break in the skin surface on the 28th day. The edge turned indistinct from day 14th onwards. Exudate, which was serous, thin, watery, reduced to scanty, thin, serosanguineous on Day 14th, then further reduced to no discharge from Day 21st onwards. The non-pitting oedema and induration 2 cm around right medial malleolus reduced to no oedema from 28th day onwards. The dusky red granulation tissue changed to beefy red granulation tissue filling half of the ulcer from the 7th day onwards; from the 21st day onwards, bright beefy granulation tissue filled more than 75% of the entire ulcer; on the 33rd day, intact skin formed. A gradual increase in epithelialization was found. On the 14th day, less than 50% of the ulcer was covered; on the 21st day, 50% of the ulcer was covered; from the 28th day onwards, the ulcer was completely covered.



DISCUSSION

Vrana management occupies an important place in Shalyatantra. Acharya Sushruta described sequential principles of Shodhana (wound cleansing) and Ropana (wound healing), indicating that satisfactory healing can occur only after removal of local factors that interfere with tissue repair. Local treatments should therefore be selected according to the condition of the wound, including depth, discharge, odour, pain, surrounding inflammation, wound bed appearance and chronicity.

Based on the clinical examination, the ulcer in the present case was considered to be progressing towards Shuddha Vrana. The classical features of Shuddha Vrana (healing ulcer) include Jihwatalabha (a healthy ulcer surface resembling the tongue), Snigdha (adequately moist /unctuous), Vigatavedana (reduced pain and tenderness), Suvyavasthita (even-surfaced ulcer with well-defined margins), Nirasrava (minimal discharge).⁹ These features broadly correspond to an ulcer with a healthy granulating surface, reduced inflammatory response, controlled exudation and absence of overt infection.

Rationale for selecting Ropana Kalka

Ropana Kalka is indicated in ulcer conditions such as Apetapootimamasa (when there is no more foul-smelling slough on the ulcer floor) and Mamsasthana (ulcer located in deeper tissue), which is non-healing in nature¹⁰. Thus, Ropana Kalka is particularly relevant after satisfactory wound cleansing, when the therapeutic objective shifts toward promoting healthy granulation, wound contraction and epithelial repair.

In the present case, the persistence of ulcer despite conventional wound care suggested impairment of the normal healing process. Once unhealthy tissue and excessive discharge were controlled, applying a medicine with both Shodhana and Ropana properties is compatible with the requirements of a chronic, non-healing wound.

Thickness and duration of Kalka application

Acharya Sushruta described the thickness of a topical medicinal paste under Pradeha in the Vraṇālepabandhavidhi Adhyāya. When Pradeha is applied over a wound, it is termed Kalka or Niruddhalepa.¹¹ Its prescribed thickness has been compared to Aardra Mahiṣa Charma,¹² or the thickness of fresh buffalo hide. On this basis, an approximately 4–5-mm-thick layer of freshly prepared Kalka was applied uniformly over the wound.

An adequate thickness ensures close contact between the medicine and the wound surface, prevents rapid drying and allows sufficient time for the active constituents to act locally. In the present case, the paste was retained for approximately 20 minutes, corresponding to its approximate drying time, and was subsequently removed according to the treatment protocol. Preparing the formulation immediately before application also helped maintain its freshness, consistency and therapeutic activity.

Probable action of Kṛiṣṇa Tila

Kṛiṣṇa Tila (*Sesamum indicum* Linn.) was used in a finely powdered form. Tila possesses Madhura (sweet), Tikta (bitter) and Kaṣhaya (astringent) Rasa, along with Snigdha (slimy), Guru (heavy for digestion) and Uṣṇa (hot potency) properties. These attributes may contribute to both wound cleansing and tissue repair¹³.

Tikta and Kaṣhaya Rasa help control local Kleda (moisture), excessive moisture, and discharge. Kaṣhaya Rasa also possesses Shoṣhaṇa (drying) and Sandhaneeya (binding) actions, which

may support approximation of the wound margins and wound contraction. The Madhura Rasa and Snigdha quality nourish regenerating tissues and help prevent excessive dryness of the wound bed.

The Uṣṇa Veerya of Tila may help alleviate localized Vata–Kapha predominance, reduce Srotorodha (obstruction of channels) and support circulation at the wound site. Improved local circulation facilitates the delivery of oxygen and nutrients required for fibroblast activity, collagen synthesis and granulation-tissue formation. The Vata-shamaka action of Tila may also explain the observed reduction in pain.

Sesame contains several biologically active constituents, including sesamin, sesamol, sesamol and other phenolic compounds. Their reported antioxidant and anti-inflammatory activities may reduce oxidative stress and excessive inflammation in the wound environment. Modulation of inflammatory mediators may reduce pain and swelling and create favourable conditions for tissue regeneration.

Probable action of Madhu

Madhu (honey) was used as the mixing medium because it possesses classical Shodhana, Ropana, Sandhana, Lekhana (scrapping), and Sūkṣmamarga-anusari (highly penetrative) properties. Its viscosity permits uniform adherence of the Kalka to the wound surface and prolongs contact between the formulation and the affected tissue.

Honey's high osmolality helps draw fluid from the wound and limits the water available for microbial proliferation. Its acidic nature and gradual production of low concentrations of hydrogen peroxide may further contribute to its antimicrobial action. Honey may also facilitate autolytic debridement by maintaining a moist wound environment and helping to separate residual slough and debris without causing unnecessary trauma to healthy tissue.

The Madhura Rasa of Madhu supports Dhātu-poṣhaṇa (nourish tissue), while its Kaṣhaya Anurasa contributes to the control of discharge and wound contraction. Its antioxidant constituents, including phenolic compounds such as syringic acid, may help neutralize free radicals generated during prolonged inflammation. This may protect newly forming cells and support fibroblast proliferation, collagen deposition, angiogenesis and epithelialisation.

Combined Shodhana–Ropana effect

The therapeutic benefit observed in this case may be attributed to the complementary actions of Kṛiṣṇa Tila and Madhu. Tila provides an unctuous, nutritive and Vata-pacifying base, whereas Madhu contributes cleansing, antimicrobial, osmotic and wound-healing effects. Together, they help maintain an appropriately moist wound environment while controlling excessive exudation.

The reduction in pain and swelling may be explained by the Vata-shamaka and anti-inflammatory actions of Tila, supported by the antioxidant and anti-inflammatory effects of Madhu. Reduction in discharge may be attributed to the Kaṣhaya Rasa and Shoṣhaṇa action of both ingredients, along with the osmotic effect of honey. Healthy granulation tissue may have developed due to improved local circulation, reduced microbial burden, removal of residual debris, and nourishment of regenerating tissues. The Sandhaneeya property may have assisted wound contraction and gradual reduction in ulcer dimensions.

From the Ayurvedic perspective, the combination acts by reducing vitiated Doṣhas, controlling Kleda, clearing Srotorodha and promoting Dhātu-poṣhaṇa. From the contemporary wound-

care perspective, its effects may be understood in terms of microbial control, regulation of inflammation, maintenance of a favourable wound environment, antioxidant protection, autolytic debridement and stimulation of granulation and epithelial repair.

Therefore, Kṛiṣṇa Tila Kalka mixed with Madhu appears to possess both Duṣṭa Vrana Shodhana and Shuddha Vrana Ropana actions. The formulation may be particularly beneficial in a chronic wound after adequate cleansing and removal of necrotic tissue.

CONCLUSION

The Ropana of the Shuddha Vrana was achieved through the regular application of Madhuyukta Krishna Tila Kalka to the Dushta Vrana, along with appropriate wound care. The outcomes were assessed by observing changes in the wound parameters. Vrana Ropana was demonstrated by the formation of healthy granulation tissue, progressive wound contraction, and complete epithelialisation. Pain, swelling and discharge gradually subsided, indicating the Vedana hara, Shothahara and Sravahara effects of the formulation. Healthy granulation tissue was preserved without causing local tissue damage. Complete wound healing was obtained with minimal scarring and without reported recurrence during the follow-up period. No adverse effects were observed during treatment. The formulation was easy to prepare, simple to apply, economical, and practically feasible. Thus, the combined Shodhana and Ropana properties of Madhu and Krishna Tila helped achieve satisfactory healing of the Dushta Vrana.

Patient Perspective

Patient is extremely happy with the complete healing of the ulcer. Healing was faster than with contemporary local applications. The patient felt a little warmth at the site of application during the initial 4-5 seconds of application. A mild hypopigmented area has resulted from complete healing of the wound.

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