

## An Ayurvedic and Modern Outlook on *Vimlapana Upakrama* (Gentle Massage) in Dushta Vrana - A Case Report

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### ABSTRACT:

*Vrana* which doesn't heal in its natural course of healing time is said as *Dushta Vrana*. The fundamental causes of delayed healing are impaired tissue regeneration, angiogenesis, neurological issues along with Local and systemic disorders. *Acharya Sushruta* elaborately explains *Shastirupakrama* for the management of wounds aimed at effective healing. *Shastirupakrama* are broadly classified as *Vrana Shodhana* and *Vrana Ropana*. *Vimlapana* is the *Upakrama* advocated in the management of *Vrana* at the site of *Shopha* that may work by dispersing the accumulated *Doshas* in the corresponding *Srotas* so that *Srotosangha* may be released and pathology may break. The present study aims to understand the possible mechanism of *Vimlapana Upakrama* in the management of *Vrana*. Here we report a case of 69 year old male having a non-healing ulcer in the lateral aspect of bilateral legs since 6 months. The case was treated throughout with oral medication and *Vimlapana Upakrama* using *Manjishtadi taila* followed by daily dressings for 3 months. The ulcer was reduced by 50% in size as a result of this procedure, and normal skin pigmentation was also noted along with healthy granulation. *Vimlapana Upakrama* with *Manjishtadi taila* in this case resulted in enhanced wound healing in *Dushta vrana*.

**KEYWORDS:** Ayurveda, *Shastirupakrama*, *Shopha*, *Vimlapana Upakrama*, *Vrana*, Wound healing.

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### INTRODUCTION:

Chronic wounds are, by definition, wounds that have failed to progress through the normal stages of healing and therefore enter a state of pathologic inflammation. As a result, the healing process is delayed, incomplete, and does not proceed in a coordinated manner, subsequently resulting

in poor anatomical and functional outcome.  
[1]

Wound healing is a complex, highly regulated process that is critical in maintaining the barrier function of skin. With numerous disease processes, the cascade of events involved in wound healing can be affected, resulting in chronic, non-healing wounds that subject the patient to

significant discomfort and distress while draining the medical system of an enormous amount of resources. [2]

The wound-healing process consists of four highly integrated and overlapping phases: Haemostasis, Inflammation, Proliferation, and Tissue remodelling or resolution. [3]

These phases and their biophysiological functions must occur in the proper sequence, at a specific time, and continue for a specific duration at an optimal intensity. There are many factors that can affect wound healing which interfere with one or more phases in this process, thus causing improper or impaired tissue repair. Most chronic wounds are ulcers that are associated with ischemia, diabetes mellitus, venous stasis disease, or pressure. [4]

The first phase of haemostasis begins immediately after wounding, with vascular constriction and fibrin clot formation. The clot and surrounding wound tissue release pro-inflammatory cytokines and growth factors such as transforming growth factor (TGF)- $\beta$ , platelet-derived growth factor (PDGF), fibroblast growth factor (FGF), and epidermal growth factor (EGF). Once bleeding is controlled, inflammatory cells migrate into the wound (chemotaxis) and promote the inflammatory phase, which is characterized by the sequential infiltration of neutrophils, macrophages, and lymphocytes. [5-6]

Macrophages play multiple roles in wound healing. In the early wound, macrophages release cytokines that promote the inflammatory response by recruiting and activating additional leukocytes. Macrophages are also responsible for inducing and clearing apoptotic cells (including neutrophils), thus paving the way for the resolution of inflammation. In this way, macrophages promote the transition to the proliferative phase of healing. [7-8]

The proliferative phase generally follows and overlaps with the inflammatory phase,

and is characterized by epithelial proliferation and migration over the provisional matrix within the wound (re-epithelialization). [9]

Following robust proliferation and ECM synthesis, wound healing enters the final remodelling phase, which can last for years. In this phase, regression of many of the newly formed capillaries occurs, so that vascular density of the wound returns to normal. The wound also undergoes physical contraction throughout the entire wound-healing process, which is believed to be mediated by contractile fibroblasts (myofibroblasts) that appear in the wound. [10]

Oxidative Stress together with proinflammatory cytokines induce production of serine proteinases that degrade and inactivate components of the ECM and growth factors necessary for normal cell function. [11]

*Acharya Sushruta* has explained *Shastirupakrama* for the management of *Vrana* to achieve early healing without any complications. *Shastirupakrama* are broadly classified as *Vrana Shodhana* and *Vrana Ropana*. The concepts and principles of *Vrana* its causes, classification, examination, treatment, bandaging, complications etc. are well explained in *Ayurvedic* classics. Experimental studies on *Ayurvedic* formulations for wound healing have explored *Vimlapana Upakrama's* potential in managing *Vrana* and its potential mechanism. [12]

The effectiveness of *Vimlapana karma* is still subject of debate, hence in this study, a review was conducted to determine how *Vimlapana karma* might operate in managing *Vrana* (wound).

#### **CASE HISTORY:**

A 69 year old male patient with K/C/O Diabetes mellitus since 25 years, Hypertension since 10 years and

Hypothyroidism since 5 years, complaints of non-healing ulcer over lateral aspect of bilateral legs since 6 months. (Fig.-1)

Patient was apparently normal before 6 months, then gradually he started developing multiple skin lesions over bilateral legs associated with itching and burning sensations. He had approached an allopathic hospital and was diagnosed as a case of venous ulcer and undertook medications and daily dressings but it did not give any relief. Hence patient with a non-healing ulcer over bilateral legs approached our hospital for further management.

**Blood investigations** dated October 13/2022 :

Hb% - 9.4g/dl

Total count - 14,400 cells/cu mm

Blood urea - 20mg/dl

Sr. Creatinine - 0.7mg/dl

Uric acid - 4.0mg/dl

Sr. Calcium - 8.8mg/dl

HbA1c - 6.7%

Estimated Average glucose - 145mg/dl

Sodium - 138

Potassium - 4.73

Chloride - 103

**Pus culture and sensitivity** - pus swab - 8/10/22

Culture - +ve with moderate proteus  
Mirabilis - heavy growth.

**Local examination :**

**Ulcer 1 : (left leg)**

Inspection :

Number of ulcer - 1 (involving the whole of the Gaiters zone)

Size and Shape : 22cm X 14cm and Irregular

Edge : Undermined

Floor : Unhealthy granulation tissue with slough

Palpation :

Skin induration : present

Margin : Irregular

Base : fixed

Peripheral pulses : Dorsalis pedis, Anterior and Posterior tibial artery - feeble

**Ulcer 2 : (right leg)**

Inspection :

Number of ulcer - 1 (involving the medial aspect)

Size and Shape : 6cm X 7cm and Irregular

Edge : Undermined

Floor : Unhealthy granulation tissue with slough

Palpation :

Skin induration : present

Margin : Regular

Base : fixed

Peripheral pulses : Dorsalis pedis, Anterior and Posterior tibial artery - feeble

**Diagnosis :** Venous ulcer of Bilateral legs with uncontrolled diabetes type II.

**THERAPEUTIC INTERVENTION:**

- *Vrana Prakshalana* done with *Dashamoola Kashaya* twice daily for 3 months
- *Vimlapana Upakrama* with *Manjishtadi Taila* twice daily for 3 months
- Under Aseptic precautions, Cleaning with Normal saline
- Wound was packed with *Manjishtadi taila*
- Sterile bandaging done.

**Procedure**

***Vrana Shodhana:*** The affected part was cleaned with Normal saline, *Tikta Pradhana Kashaya's* for cleaning like *Panchavalkala Prakshalana*, and *Dashamoola Kashaya* (used in this case) can be used. Removal of slough was done and cleaned well twice daily for 3 months.

**Snehana** : *Vata hara Taila's* like *Manjishtadi taila* which was used in this case was applied all around the ulcer.

**Vimlapana Upakrama:** *Vimlapana Upakrama* is to be done in rhythmic circular rotation around the wound, initially it should be slow and later with applying gentle / mild pressure , compressing the swelling or the surrounding area of the ulcer, so that the area becomes warm by an increase in the local temperature by friction with the pulp of

the fingers depending upon the size of the wound, gentle circular movements should be continued around the edges of wounds for a period of 10-15 mins.

**Bandhana - Paschyat karma:** (Post procedure) – Under Aseptic precautions thorough cleaning and *Manjishtadi taila* dressing of the ulcer was done, then bandaged using soft pads and 15cm roller bandage was applied and *Sama Bandhana* was done.



**Fig-1: Method of Vimlapana Upakrama with Manjishtadi Taila**

#### **RESULT:**

*Prakshalana* with *Dashamoola Kashaya* helped in *Vrana Shodhana* and got a highly significant relief in symptoms such as *Srava*, *Daha* and *Vedana*. Along with the procedures, his oral medications for Diabetes was not stopped which has helped in control of his blood sugar levels. *Vimlapana Upakrama* will rise the local



**Fig-2: Healing of Dushta vrana with Vimlapana Upakrama after 3 months.**

temperature of the due to which vasoconstriction might be relieved and necessary nutrients, oxygen, are carried to the wound site there by improving the condition of wound. Here a persistent non-healing ulcer, After the initial 20 days of *Vimlapana Upakrama*, the ulcer started to heal. The discharge got reduced and the patient got the confidence to continue the



treatment. Gradually, the ulcer showed more signs of healing and at the end of 3 months; it had healed to 50% of its size, healthy granulation was noticed also there was normal pigmentation of the skin which was observed. Fig-2 show the photograph of the ulcer on 3 months of treatment.

## **DISCUSSION:**

### **Vimlapana**

*Vimlapana Upakrama* is nothing but gentle massage around the swelling and the wound with the help of *Vata hara taila*. *Acharya Charaka* doesn't explain it as *Vimlapana* but describes it as kneading the wound for softening in *Kathina Vrana Shopha* [13- 14] *Acharya Sushruta* has mentioned *Vimlapana Upakrama* under the heading of *Saptopakrama* for *Vrana Shopha* as well as among *Shashtirupakramas* for *vrana*. [15-16] *Acharya Vagbhata* explained *Vimlapana Upakrama* as procedure indicated for *Sthira* associated with *Mandaruja*. Having given *Snehana* and *Swedana*, a surgeon should perform gentle local massage with bamboo reeds, the palm or the thumb [17-18]

According to *Bhaishajya Ratnavali*, *Vimlapana Upakrama* is explained in the *Vrana Shothadhikara* chapter under the context of *Kathina Shotha Kriyakrama*; where he explains it as the procedure for *Manda Vedanayukta*, *Sthira*/ *Kathina Shotha* where it should be first given *Snehana* with *Vatahara Taila* and *Swedana* is to be carried out. then with the help of bamboo reeds and pulp of the thumb (*Angushta*) slowly *Mardana* is to be carried out for *Shotha Vilayanartha*. [19]

*Vimlapana Upakrama* in *Gada Nigraha* is explained as the procedure of rubbing with the bamboo reeds, stones & *Shalaka* for *Kathina Vrana Shopha*. Where *Vimlapana* refers to *Pralepa*, *Parisheka*, *Abhyangadi krama* which does the *Bahyashodana* of the *Vrana Shotha*. *Vimlapana Upakrama* also refers to *Mrudvikarana* or *Shuddikarana* [20-

21]. According to *Acharya Yogaratnakara* also opines same as *Sushruta Acharya* and explains it as a procedure practiced in *Kathina Vrana Shotha* [22-23]

### **Probable mode of action of Vimlapana Upakrama:**

*Vimlapana Upakrama* it will rise the local temperature due to which vasoconstriction might be relieved and necessary nutrients, oxygen, are carried to the wound site there by improving the condition of wound. Mechanical forces induce in enzymatic expression by compression it may have induced apoptosis of fibroblasts which would modulate cytokine reduce inflammation & aid wound healing.

*Vimlapana Upakrama* is advocated in the management of both *Ama* and *Pakwa Shopha* which means it includes *Nija* and *Agantuja* types of *Vrana*. As in *Nija Vrana Dosha* is involved initially and in *Agantuja vrana* involvement of *Dosha* occur later on. *Vimlapana Upakrama* can be considered with Mechano transduction which is defined as the transformation of a mechanical stimulus into a chemical signal or the resulting cellular signalling cascade after an external mechanical deformation of tissue. [24] Studies suggest that Massage acts as an immune modulator. It influences apoptotic signalling of neutrophils, results in the decreased release of proinflammatory cytokines. Thus it promotes tissue repair. [25] A case of 69 year old male patient with non-healing ulcer over the bilateral legs was treated with *Vimlapana Upakrama* with *Manjishtadi taila*, which helped raise local temperature, due to which vasoconstriction might have been relieved and necessary nutrients, oxygen, etc. are carried to the wound site, thereby improving the healing and granulation of the wound. This increased Angiogenesis and neovascularization of the wound. Mechanical forces induce changes in

enzymatic expression, and these enzymes degrade fibrotic tissue, which resulted in increased softness around the wound bed. By compression, it may have induced apoptosis of fibroblasts, which modulated cytokine, reduced inflammation & aided wound healing.<sup>[26]</sup>

### CONCLUSION:

The *Dushta Vrana's* (chronic non-healing ulcer) in bilateral legs treated with *Vimlapana Upakrama*, along with *Vrana Prakshalana* and daily dressing's was beneficial in all removing the local vasoconstriction thereby aiding the micro & macro circulation to the wound site thus improved the anoxic state of the tissue. It further increased Angiogenesis and neovascularization in the wound which helped in early healing. In a time period of 3 months of treatment, the ulcer had reduced to 50% of its size.

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