

# An Ayurvedic Approach of Dusta Vrana (Diabetic ulcer) – A Case Study

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**Abstract:** Regeneration and tissue repair processes involve a sequence of molecular and cellular events following a tissue lesion. These processes include exudative, proliferative, and extracellular matrix remodeling phases involving soluble mediators, blood cells, and parenchymal cells. In recent years, significant advancements in surgery across various fields have substantially lowered the occurrence of wound infections by addressing many of the challenges related to wound healing. However, the management of wounds remains a topic of ongoing inquiry and research. In this article, a case study of a persistent or problematic wound (*Dusta Vrana*) was successfully treated using a combination of *Shodhana* (cleansing) and *Shamana* (palliative) therapeutic approaches. The results demonstrated remarkable wound-healing effects. **Method:** A 52-year-old male patient diagnosed as *Dusta Vrana* (Diabetic wound) was treated with ayurvedic treatment. **Result:** The patient got maximum relief from right lower limb swelling symptoms with mild pain, redness with watery discharge. **Conclusion:** The present case study shows that wound healing can be successfully treated in accordance with the principles of Ayurveda.

**Key Words** – Cell proliferation; Hedgehog proteins; Inflammation; Wound Healing, *Dusta Vrana*

## 1. Introduction:

Ayurvedic wound management is crucial in surgical treatment, particularly in *Shalya chikitsa*. The ancient discipline addresses inflammation and healing complications in various surgical conditions. Key components include recognizing imbalanced doshas and trauma, managing inflammation, and advocating for personalized treatment. The integration of herbal remedies and therapeutic techniques enhances the wound-healing process. Modern medicine has made significant progress in understanding wound healing, and a pragmatic approach often involves symbiotically integrating traditional Ayurvedic wisdom with contemporary medical knowledge to optimize patient outcomes and treatment efficacy. Measures to create favorable conditions for wound healing include antiseptic solutions, antibiotics, and agents to remove slough/dead tissues<sup>[1]</sup>.

## Case History:

A 59-year-old male with diabetes had an ulcerated wound on the upper aspect of the 3rd and 4th toe of his right leg, accompanied by swelling, pain, redness, and watery discharge for one year. He had been on anti-diabetic medication for two years. On September 21, 2023, the patient sought Ayurvedic treatment as an alternative to surgery.

### Systemic Examination:

The wound was assessed based on 5 parameters VAS Scale, Discharge, Slough, Granulation Tissue, and Epithelization, [3]

**Table 1**

ASSESSMENT CRITERIA	BEFORE TREATMENT	AFTER TREATMENT
DISCHARGE	4	1
SLOUGH	3	0
GRANULATION	4	1
EPITHELIZATION	3	0
VAS	5	2

### Blood Parameters

**Table 2**

	Investigation	Value
Date: 22/09/23	Haemoglobin	10.9 g/dl
	Platelet count	318000/ cm
	M. C. V	68.14 femtolitre
	M. C. H	21.84 pg
	ESR (After 1 hour)	16
	Bleeding time	1min 00sec
	Clotting time	2min 45sec
	FBS	126 mg/dl
	HbA1c	6.4%
	CRP	1.1
	<b>Lipid Profile</b>	
	Cholesterol	201mg/dl
	Triglyceride	144.2 mg/dl
	HDL cholesterol	64.3 mg/dl
	LDL cholesterol	107.86 mg/dl
	VLDL	28.84 mg/dl
	Total lipid	746.2 mg/dl
	<b>Urine examination</b>	
	Protein	Trace
	<b>Other investigation</b>	
	HIV, HbSAg, VDRL	Negative

## 2. Materials and Methods

The patient was treated with *Shamana aushadhis* (palliative treatment) followed by *Vrana Shodhana* and *Ropana* (Cleansing and Healing) *aushadhis*.

### Therapeutic Interventions:<sup>[6]</sup>

Table 3

Date with Duration	Treatment	Anupana
21/09/23 to 23/09/23	<ul style="list-style-type: none"> <li>Tab. <i>Triphala guggulu</i> 2-2-2</li> <li>Tab. <i>Gandhaka Rasayana</i> 1-0-1</li> <li>Tab. <i>Arogyavardhini</i> 1-0-1</li> <li>Dressing with <i>Jatyadhi Taila</i></li> <li><i>Vranadhupana</i></li> </ul>	After food with warm water
24/09/23 to 28/09/23	<ul style="list-style-type: none"> <li>Tab. <i>Triphala guggulu</i> 2-2-2</li> <li>Tab. <i>Gandhaka Rasayana</i> 1-0-1</li> <li>Tab. <i>Arogyavardhini</i> 1-0-1</li> <li>Dressing <i>Shalmali Nirryasa</i> (once a day)</li> <li><i>Vranadhupana</i> (once a day)</li> </ul>	After food with warm water

### 3. Discussion

Wound healing consists of three distinct phases: the Inflammatory phase, the Proliferative phase, and the Remodeling phase. In addition to these primary phases, there are concurrent but independent processes such as Granulation, Collagen Maturation, and Scar Formation. "*Ropana*," which refers to the healing of wounds, is always linked to "*Shodhana*" because a wound cannot heal properly unless it is clean and free of impurities.

To achieve this, *Jatyadhi taila and mocha rasa* were selected for their combined properties of *Shodhana* (purification) and *Ropana* (healing) along with internal medications like *Triphala Guggulu*, *Gandhaka Rasayana*, and *Arogyavardhini vati*.

In the context of wound healing, *Vrana Ropana* involves a two-stage process: first, the subsiding of local swelling or "*shotha*" by eliminating local tissue impurities, and then the initiation of the healing process, which includes contraction and the formation of epithelial layers to cover the wound.

*Vranadhupana varti* has been made with the combination of *Haridra*, *tagara*, *jatamamsi*, *kushtha*, *Triphala*, and *Guggulu*. These drugs possess antimicrobial actions which help in removing the harmful pathogens responsible for infections.<sup>[4]</sup>

Here, *Jatyadhi Taila* and *Mocha rasa* have the *Vrana shodhana* and *ropana* along with *rakta prasadhana*, *shothahara*, *vedanasthapana*, *dahaprashamana* and, *snehana* properties which help to improve the tissue re-epithelization.

*Arogyavardhini vati*, *Triphala Guggulu*, and *Gandhaka Rasayana*<sup>[8]</sup> are primarily used as a Herbo mineral formulation indicated for the treatment of skin diseases in Ayurvedic medicine. This formulation is characterized by its ability to stimulate the elimination of excess *pitta* and balance the *tri-doshas* (*Vata*, *Pitta*, *Kapha*) to help in healing the wound.<sup>[5]</sup>

### 4. Conclusion

Wound healing is a complex, multi-phase process that involves homeostasis, blood clotting, inflammation, proliferation, and remodeling following an injury. Various factors, including infection, sex hormones, and nutrition, can either promote or delay the healing process. Delayed healing increases the risk of infection, improper recovery, and the development of unsightly scars.

In a clinical study, the use of *Shalmali nirryasa*, *Jatyadhi taila*, *Arogyavardhini vati*, *Triphala Guggulu*, and *Gandhaka Rasayana* for wound treatment demonstrated positive outcomes. These treatments effectively prevented infections, maintained the patient's overall health, and ensured normal body functions. The wounds healed within 21 days, resulting in well-colored scar formation without complications in the trial group, demonstrating the "*vaikritapaham*" property of the compound drug. Local application of *Shalmali nirryasa* and *Jatyadhi taila* significantly reduced wound size, promoted healing, and led to cosmetically favorable outcomes with minimal scar formation. No adverse effects were observed during the treatment.

From this clinical study, it can be concluded that these drugs are highly effective in "*Vrana ropana*" (wound healing) and are recommended as a cost-effective, easy-to-prepare, and efficient therapy for wound healing with the added benefit of cosmetic improvement

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#### Conflict Of Interest

None to declare

#### Funding Resources

None

#### Consent

Written informed consent for publication of their details was obtained from the patient.

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