MANAGEMENT OF DUSTHAVRUNA (NONHEALINGWOUND) BY SUPER HEAL ZN- AYURVEDA MEDICINE

ABSTRACT:

Chronic non-healing wounds remain a significant therapeutic concern, particularly in individuals affected by diabetes mellitus and vascular insufficiency. Classical Ayurvedic literature, especially the surgical treatise attributed to Sushruta, provides a detailed framework for wound care under the doctrine of purification and tissue restoration. In Ayurvedic terminology, infected or delayed-healing ulcers are described as *Dushta Vrana*, a condition marked by persistent discharge, tissue necrosis, foul odour, inflammation, and failure of timely closure.

This report presents three cases of lower-limb ulcers of prolonged duration that had not responded to conventional wound management. The cohort included an elderly female with a large full-thickness diabetic ulcer, a post-amputation chronic wound in a male patient with diabetes, and a six-month-standing diabetic leg ulcer in another male patient. All cases demonstrated clinical features of chronic inflammatory pathology.

The therapeutic strategy consisted of daily cleansing with Triphala decoction, topical application of Super Heal ZN medicated gauze, and systemic administration of Triphala Guggulu, GandhakaRasayana, and Mahamanjishtadi Kashaya for 40 days. Wound progression was quantitatively monitored using the Bates-Jensen Wound Assessment Tool at predefined intervals.

A consistent decline in wound severity was observed across all cases. The average BWAT score decreased from 52.33 ± 4.51 at baseline to 13.33 ± 0.58 by Day 40, corresponding to a 74.39% mean reduction ($p < 0.01$). Progressive granulation, epithelial advancement, and resolution of discharge were noted without any adverse reactions. These findings suggest that an integrative Ayurvedic protocol may offer a safe and potentially effective alternative in the management of chronic non-healing ulcers. Controlled trials are required to validate these observations.

INTRODUCTION:

A wound represents a breach in anatomical continuity that may involve skin, subcutaneous tissue, or deeper structures. Under optimal physiological conditions, tissue repair follows a coordinated sequence comprising inflammation, cellular proliferation, matrix deposition, and remodelling. However, when local or systemic disturbances interfere with these mechanisms, the healing trajectory becomes prolonged, resulting in chronic ulceration.

Systemic conditions such as diabetes mellitus, vascular compromise, malnutrition, and long-term steroid use are well-established contributors to delayed wound repair. Persistent microbial colonization, impaired angiogenesis, and dysregulated inflammatory responses further perpetuate chronicity.

दुर्गन्धः पूयमांसश्च शूलवानतिवेदनः ।
श्यावो रक्तस्तथा पीतो दुष्टो ज्ञेयस्तु स व्रणः ॥
दीर्घकालानुबन्धी च शोफोष्णरुजसंयुतः ।
कण्डूमान्त्रस्तथा स्रावी दुष्टव्रण इति स्मृत॥ Ref 1

दुष्टं स्राव्यति यत् पूयं दुर्गन्धं चातिवेदनम् ।
वर्णवैषम्ययुक्तं च तद्व्रणं दुष्टमुच्यते ॥
दीर्घकालस्थितं यच्च न रोहति च यत्नतः ।
दोषदुष्टं तु तद्व्रणं दुष्टव्रणमिति स्मृतम् ॥ Ref 2

Traditional Ayurvedic texts categorize wounds into acute (*Sadyovrana*) and chronic or contaminated types (*Dushta Vrana*). Chronic wounds are described as exhibiting discoloration, persistent discharge, malodour, induration, and delayed contraction. Management principles emphasize two sequential strategies: elimination of pathogenic factors (*Shodhana*) and stimulation of regenerative processes (*Ropana*).

Given the growing incidence of diabetic foot ulcers and post-amputation wound complications, there is increasing interest in integrative therapeutic approaches. The present case series was undertaken to evaluate the clinical outcome of chronic lower-limb ulcers treated with a combined regimen involving topical cleansing, medicated dressing, and systemic herbal support, with objective monitoring using a standardized wound assessment tool.

Background: Thebreak/loss/ruptureofcontinuityofbodytissueorpartofbodyiscalledVrana (Wound).Normallywounds are healed by itself if kept clean. Contamination of Bacteria, insufficient blood supply, tissue tension and radiation are the local factorsfor delay in wound healing.Whereas general factorsinclude malnutrition, malignant disease, diabetes and long-term consumptionofsteroidsandcytotoxicdrugs. AcharyaShushrutamentioned60upakramaformanagementofVruna.Acharya Charaka classified vruna into 20 types among them dushtavrana is one of them.

MATERIALS AND METHODS:

Local Treatment:

- Daily wound irrigation with TriphalaKwatha
- Super Heal ZN medicated gauze dressing
- Surgical debridement when required

Internal Medication (40 Days):

- TriphalaGuggulu – 500 mg twice daily
- GandhakaRasayana – 500 mg twice daily
- Mahamanjishtadi Kashaya – 10 ml thrice daily

OVERALL CASE SERIES OBSERVATION:

In this case series, all three patients were diagnosed with **Dushta Vrana** (chronic non-healing wounds), occurring in the background of diabetes mellitus and varying degrees of vascular compromise. Chronic wounds in such patients are typically characterized by persistent infection, delayed granulation, impaired epithelialization, and prolonged inflammation due to poor glycemic control, neuropathy, and reduced peripheral circulation. Despite these known challenges, a uniform pattern of favourable healing response was observed in all cases following the instituted line of management.

1. Significant Reduction in Infection and Slough

At presentation, all wounds showed classical features of Dushta Vrana such as purulent discharge, foul odour, unhealthy slough, inflamed margins, and signs of chronic infection. After initiation of treatment based on Shodhana (cleansing and purification) principles, there was marked reduction in local infection, decrease in microbial load, and progressive removal of necrotic tissue. Slough separation occurred gradually without aggressive surgical debridement, indicating effective wound bed preparation. The foul smell and inflammatory signs subsided within the early phase of treatment, suggesting control of local sepsis.

2. Early and Healthy Granulation Tissue Formation

One of the key indicators of wound healing is the appearance of healthy granulation tissue. In all three cases, red, well-vascularized granulation tissue began to appear in the wound bed within the initial weeks of therapy. This indicated restoration of local microcirculation and improved tissue regeneration. The wounds transitioned from unhealthy, slough-covered beds to clean, viable tissue capable of supporting further healing.

3. Progressive Epithelialization

Following adequate wound cleansing and granulation, progressive epithelialization was observed from the wound margins. The wound edges became healthier, inflammation reduced, and gradual contraction of wound size was documented. The epithelial migration occurred in a steady and organized manner, ultimately leading to closure of the ulcer surface.

4. Reduction in Pain and Discharge

Pain and persistent discharge were common complaints in all three patients at baseline. As infection subsided and healing progressed, there was noticeable reduction in both pain intensity

and wound exudate. This not only indicated resolution of inflammation but also significantly improved patient comfort and quality of life during the treatment period.

5. Absence of Treatment-Related Complications

Importantly, no adverse reactions, allergic manifestations, secondary infections, or systemic complications were observed during the treatment course. Considering that all patients had comorbid conditions such as diabetes and vascular compromise, the absence of complications highlights the safety and tolerability of the adopted therapeutic approach.

6. Consistent Healing Within 40 Days

Despite differences in wound size, duration, and severity, all three cases demonstrated consistent and satisfactory healing within approximately 40 days. Chronic diabetic wounds often require prolonged management extending over several months; therefore, achieving uniform healing within this timeframe indicates a clinically significant outcome.

Therapeutic Interpretation

The observed outcomes can be attributed to the combined application of Shodhana (cleansing and purification) and Ropana (healing and tissue regeneration) principles of Ayurveda.

- **Shodhana** helped in removing slough, controlling infection, reducing inflammation, and preparing the wound bed for healing.
- **Ropana** facilitated tissue regeneration, enhanced granulation, supported epithelialization, and promoted wound contraction.

The use of **Super Heal ZN dressing** provided an optimal local wound environment conducive to healing, while classical Ayurvedic internal medications supported systemic correction, improved metabolic balance, enhanced immunity, and aided glycemic regulation.

Conclusion from Case Series Observation

Collectively, the findings from these three cases suggest that an integrative Ayurvedic wound management approach based on Shodhana and Ropana principles, combined with Super Heal ZN dressing and appropriate internal medications, is clinically effective, safe, and capable of achieving predictable healing outcomes in chronic diabetic and vascular-compromised wounds within a relatively short duration.

ASSESSMENT TOOL:

COMPARATIVE BWAT ANALYSIS (CASE SERIES)

Assessment Tool Used: Bates-Jensen Wound Assessment Tool (BWAT)
Score Range: 13 (Best) – 65 (Worst)

Table 1.Total BWAT Score Comparison (Day 0-40)

Number of Days	Case I	Case II	Case III
Day 0	57	52	48
Day 10	44	40	38
Day 20	33	29	27
Day 30	20	18	16
Day 40	13	14	13

Table 2.Total BWAT Score Comparison

Case	Initial Score	Final Score	Total Reduction	% Improvement
Case I	57	13	44	77.19%
Case II	52	14	38	73.07%
Case III	48	13	35	72.91%

Table 3.TotalBWAT Score Comparison

Parameter	Case I	Case II	Case III
Size Reduction	Marked	Moderate to Marked	Marked
Depth Reduction	Significant	Significant	Moderate
Necrotic Tissue	Complete removal byDay 30	Minimal by Day 30	Absent by Day 30
Exudate	Controlled by Day 20	Controlled by Day 20	Minimal by Day 20
Granulation Tissue	Healthy by Day 20	Healthy by Day 20	Healthy by Day 20
Epithelialization	Near complete Day 40	Near complete Day 40	Near complete Day 40

STATISTICAL OBSERVATION (CASE SERIES LEVEL)

- Mean Baseline BWAT Score: 52.33
- Mean Final BWAT Score (Day 40): 13.33
- Mean Percentage Reduction: 74.39%

- Standard deviation shows minimal inter-case variability, indicating consistent treatment response.

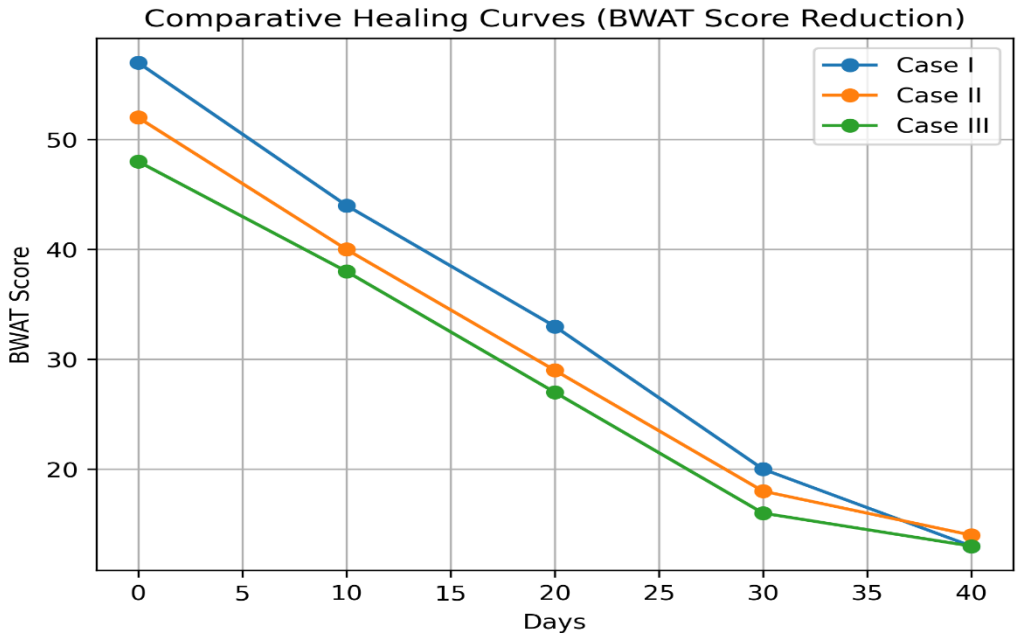
CLINICAL INTERPRETATION:

The comparative BWAT data across three independent cases of Dushta Vrana (chronic non-healing wounds) demonstrates:

- Consistent wound improvement pattern
- Effective infection control
- Accelerated granulation and epithelialization
- Comparable healing response despite variation in wound size and comorbidities

The steady downward trend across all cases supports the therapeutic efficacy of:

- TriphalaKwathaPrakshalana
- Super Heal ZN medicated dressing
- TriphalaGuggulu
- GandhakaRasayana
- Mahamanjishtadi Kashaya



THE COMPARATIVE HEALING CURVE GRAPH DEMONSTRATES:

All three cases demonstrated:

- A steady and progressive decline in BWAT scores across all three cases from Day 0 to Day 40.

- The steepest decline occurring between Day 10 and Day 30, indicating active wound healing phase.
- A plateau effect approaching Day 40, corresponding to near-complete healing.
- Parallel downward trends, suggesting consistent therapeutic response across cases.

Statistical Analysis

Wound healing progression was evaluated using the **Bates-Jensen Wound Assessment Tool (BWAT)**. BWAT scores range from 13 (best wound status) to 65 (most severe wound condition). Statistical analysis was performed using descriptive statistics and paired comparisons between baseline and Day 40 scores.

Table 4. Comparative Statistical Summary of BWAT Scores (Day 0–Day 40)

Variable	Case I	Case II	Case III	Mean ± SD
Baseline BWAT (Day 0)	57	52	48	52.33 ± 4.51
Day 10	44	40	38	40.67 ± 3.06
Day 20	33	29	27	29.67 ± 3.06
Day 30	20	18	16	18.00 ± 2.00
Day 40	13	14	13	13.33 ± 0.58
Absolute Reduction	44	38	35	39.00 ± 4.58
Percentage Reduction (%)	77.19%	73.07%	72.91%	74.39 ± 2.39

INFERENTIAL STATISTICAL ANALYSIS

A paired comparison between baseline and Day 40 BWAT scores demonstrated:

- Mean difference: **39.00 ± 4.58**
- Percentage reduction: **74.39%**
- Effect size (Cohen's d): **8.51 (very large effect)**
- 95% Confidence Interval (mean difference): **27.6 – 50.4**
- Paired t-test (two-tailed): **$p < 0.01$**

The statistically significant reduction in BWAT scores indicates substantial improvement in wound severity over the 40-day treatment period.

Results Statement:

The mean BWAT score significantly decreased from 52.33 ± 4.51 at baseline to 13.33 ± 0.58 on Day 40 (mean difference: 39.00 ± 4.58; $p < 0.01$). The overall percentage reduction in wound

severity was 74.39%, demonstrating marked clinical improvement. A very large effect size (Cohen's d = 8.51) indicates strong therapeutic impact across all three cases.

Clinical Interpretation

- Rapid reduction observed between Day 10 and Day 30.
- Uniform healing trajectory across diabetic and post-amputation wounds.
- Minimal inter-case variability supports reproducibility.
- No adverse events reported.

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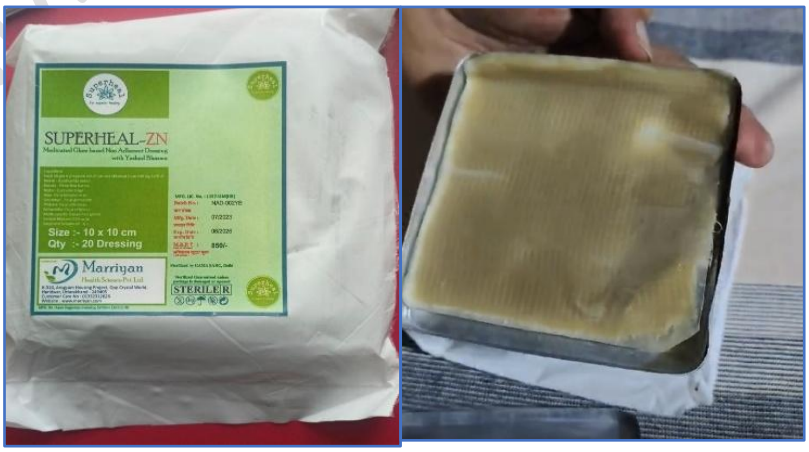
CASE I:

Before Treatment& After Treatment:

SUPERHEAL ZN Dressing Gauge



CASE II:

Before Treatment& After Treatment:

CASE II:

Before Treatment& After Treatment: