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Management Of *Dushta Vrana* By *Nimb Haridra Tail Pichu*- A Case Study

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Abstract

Introduction- Wound management is a critical aspect of surgical and clinical care, directly influencing patient recovery and overall prognosis. Improper wound care can lead to chronic wounds, termed as *Dushta Vrana* in Ayurveda. While conventional treatments focus on antimicrobial agents and surgical debridement, there is growing interest in exploring traditional Ayurvedic therapies to enhance wound healing. This study aims to evaluate the clinical efficacy of *Nimb Haridra Tail Pichu* (sterile gauze impregnated with medicated herbal oil) locally, in managing *Dushta Vrana*. This research seeks to provide scientific validation for its therapeutic potential in chronic wound management

Methods- A total of 30 patients diagnosed with *Dushta Vrana* were enrolled in this study. *Nimb Haridra Tail* (medicated oil by *Sneh Siddhi* method) was prepared and impregnated to sterile gauze (*Pichu*). Proper wound cleaning followed by sterile dressing was done on alternate day and the observations were recorded respectively. Subjective (pain, itching) and objective (tenderness, size, smell, discharge, granulation) parameters were assessed for wound healing using Wilcoxon Signed Rank Test for statistical analysis.

Results- Significant clinical improvement was observed, with 66.0% of patients completely cured, 23.0% markedly improved, 7 % moderately improved, while remaining 4% showed no improvement. The P-value for all parameters was <0.001, indicated a highly significant effect of the treatment.

Discussion- *Nimb Haridra Tail Pichu* demonstrated remarkable wound-healing properties, including *Shodhana* (cleansing), *Ropana* (healing), *Vedana-sthapana* (pain relief), and *Shoth-har* (anti-inflammatory) effect. This study highlights the therapeutic potential of Nimba Haridra Tail Pichu in managing Dushta Vrana (infected non-healing wounds), demonstrating its efficacy, safety, and cost-effectiveness as a treatment alternative.

Keywords- *Dushta Vrana, Nimb, Haridra, Wound Healing, Ayurvedic wound management*

Introduction:

The challenge of delayed wound healing has persisted throughout human history and continues to be a significant concern in modern medicine. Wounds can arise from various traumatic events, including falls, burns, and interpersonal conflicts. The process of injury and subsequent healing is an inherent biological function. Wound healing involves a complex interplay of vascular and cellular responses. The vascular phase includes transient vasoconstriction followed by sustained vasodilation of arterioles, capillaries, and venules, whereas the cellular response is characterized by histiocyte activation, macrophage proliferation, and leukocyte migration to the site of injury. The failure of this coordinated physiological response leads to chronic wound formation. Several intrinsic and extrinsic factors influence wound healing, including anatomical location, microbial contamination, vascular insufficiency, radiation exposure, and systemic conditions such as diabetes mellitus, tuberculosis, immune deficiencies, and prolonged corticosteroid therapy. These factors contribute to delayed tissue repair, increasing the risk of wound chronicity [1].Comprehensive description of wounds and management are documented in the classical ayurvedic text of *Sushruta Samhita*. The scripture provides a systematic classification, etiopathogenesis and treatment modalities for wound management. Acharya Sushruta has defined *Vrana* as an entity which causes the destruction, rupture, or discontinuity of body tissues leaving a permanent scar after complete healing [2].Further, acute traumatic wounds (*Sadhyo Vrana*) typically remain uninfected (*Shuddha*) initially but may develop into *Dushta Vrana* (chronic, infected wounds) due to vitiation of *Doshas* and secondary contamination by extrinsic factor. *Dushta Vrana* exhibits characteristic features such as abnormal discharge, malodor, pain, and discoloration and if left untreated then these wounds become chronic non-healing ulcers with scarring [3].

The primary objective of treating *Dushta vrana* is to convert it into a *Shuddha Vrana* through purification (*Shodhana*) and followed by wound healing (*Ropana*). Acharya Sushruta advocated *Shashti Upakramas* (sixty therapeutic interventions) for wound management, including purification therapies and external applications of herbal formulations such as *Nimb, Karanj, Panchvalkal, Yashtimadhu, Haridra, Triphala, Shigru* etc. Among these, *Nimb (Azadirachta indica)* and *Haridra (Curcuma Longa Linn)*, are well-documented medicinal plants which are specifically indicated for the treatment of *Dushta Vrana* due to their antimicrobial, anti-inflammatory, and wound-healing properties [4,5].

This study evaluates the efficacy of *Nimb Haridra Tail Pichu* as a topical application for wound purification (*Shodhana*) and healing (*Ropana*) thus proving its potential in the management of *Dushta Vrana*.

Material And Methodology :

Study design- Single Arm, Randomized Open clinical study

Place of Study- Concerned Shalya Tantra OPD Affiliated to Hospital.

Inclusion Criteria-

- Age groups- 20 to 50 years,
- Gender- Male and Female both
- All types of Chronic wounds
- Post-operative infected wounds
- Non healing wounds

Exclusion Criteria -

- Malignant ulcers
- Tripple H Positive patients – (HIV, HBsAg, HCV)
- Wounds having bony and deep tissue involvement
- Patient with Ulcer and systemic diseases such as Anemia, Tuberculosis, Diabetes, Leprosy etc.

Drug and Dosage – *Nimb Haridra Tail Pichu* (for local wound dressing)Wound cleansing with normal saline followed by dressing with *Nimb Haridra Tail Pichu* (sterile gauze impregnated with medicated herbal oil) - on every alternate day till complete healing.

Collection and Preparation of Drugs :

Fresh Leaf of *Nimb* and wet Roots of *Haridra* was collected from the Herbal Garden in campus and the drug identification and authentication was done by Dravya Guna Department

Drug Preparation :

The collected drugs were grinded to make *Kalka* i.e. paste and *Nimb Haridra Tail* was obtained asper *Sneha siddhi* method with standard properties mentioned in classical Ayurvedic texts [6].

Wound care method :

Dushta Vrana was cleaned properly with sterile swabs, followed by debridement of devitalized tissues wherever required and then area was dried by a sterile gauze piece. *Nimb Haridra Tail Pichu (*sterile gauze impregnated with medicated oil*)* was applied over the wound surface according to the size of *Dushta Vrana*, and bandaging was done. Similarly, dressing was changed on alternate day till the wound healed completely.

Assessment criteria- The assessment criteria of wounds healing was based on the symptomatology of *Dushta Vrana* described by Acharya Sushruta which included both Subjective Parameter (Pain, Itching) and Objective Parameters (Tenderness, Foul Smell, Floor/Granulation, Size, Discharge). The overall therapeutic outcome was assessed by observing improvement in set parameters.

Table No. 1: Showing assessment parameters and gradation score

Parameter	Gradation	
Pain	No pain	0
	Mild pain which does not interferes with daily activity	1
	Moderate pain which interferes with daily activity	2
	Severe pain disabling routine daily activity	3
Itching	No Itching	0
	Mild occasional itching	1
	Moderate and localized itching	2
	Severe persistent itching	3
Tenderness	No tenderness	0
	Mild tenderness on pressure	1
	Moderate tenderness on slight pressure	2
	Severe tenderness and Resists to touch	3
Smell	No smell even after removing the wound dressing	0
	Mild Malodour after removing the wound dressing	1
	Evident Malodour upon removing the dressing	2
	Evident Malodour even after intact dressing	3

Floor/Granulation	**Skin intact or partial thickness wound**	**0**
	Bright, beefy red; 50% to 75% of wound filled	1
	Pink, &/or dull, dusky red &/or fills < 25% of wound	2
	No granulation tissue present	3
Discharge	No discharge	0
	Serous discharge	1
	Serosanguinous discharge	2
	Bloody-Purulent discharge	3
Size	No discontinuity of skin	0
	Length x width <5sq cm	1
	Length x width 10-5 sq cm	2
	Length x width More than 10 sq cm	3

Observation :

The study observation indicate that the majority of patients (70%) experienced Grade-3 Pain, with lower occurrences of Grade-2 (17%), Grade-1 (7%), and Grade-0 (7%). Itching was most commonly reported at Grade-1 (43%), followed by Grade-3 (33%), Grade-2 (20%), and Grade-0 (3%). Tenderness was predominantly observed at Grade-3 in 73% of cases, with lower grades reported less frequently. No healthy granulation (Grade-3) was observed in 77% of patients. Smell intensity was evenly distributed between Grade-2 and Grade-1 (30% each), while 40% of patients reported Grade-3. Discharge Discharge was most frequently seen at Grade-3 (63%), followed by Grade-2 (27%) and Grade-0 (10%). In terms of wound Size, the majority (60%) had Grade-1 wounds, with Grade-2 (37%) and Grade-3 (3%) observed in fewer cases. The objective and subjective parameters and their findings are mentioned in Table 2.

Subjective parameters: The application of *Nimba Haridra Tail Pichu* significantly reduced both pain and itching in wound healing. The median pain score dropped from 3 before treatment to 0 after treatment, with a mean reduction from 2.5 to 0 and an overall decrease of 89% ($p < 0.001$). Similarly, itching showed a median reduction from 2 to 0, with the mean dropping from 1.8 to 0, resulting in a 96% decrease ($p < 0.001$). These highly significant findings suggest that *Nimba Haridra Tail Pichu* is an effective therapeutic agent for alleviating wound-related pain and itching.

Objective parameters: The application of *Nimba Haridra Tail Pichu* demonstrated a significant reduction in objective wound parameters such as tenderness and smell granulation discharge and wound size. The median tenderness score decreased from 3 before treatment to 0 after treatment, with the mean dropping from 2.5 to 0.2, resulting in a 92% reduction ($p < 0.001$).

The median smell score reduced from 2 to 0, with the mean decreasing from 2.1 to 0.1, showing a 94% reduction ($p < 0.001$).

The median for granulation score decreased from 3 before treatment to 0 after treatment, with the mean dropping from 2.7 to 0.1, resulting in a 96.% reduction ($p < 0.001$)

The median discharge score decreased from 3 before treatment to 0 after treatment, with the mean dropping from 2.4 to 0.3, resulting in a 88% reduction ($p < 0.001$)

The median wound size score decreased from 1 before treatment to 0 after treatment, with the mean dropping from 1.4 to 0.4, resulting in a 71% reduction ($p < 0.001$). These highly significant findings suggest that *Nimba Haridra Tail Pichu* effectively improves objective wound conditions (Pain, Itching, tenderness, Granulation, Smell, Discharge and Size of wound), supporting its role in wound management.

Table No. 2 – Showing therapeutic efficacy of *Nimba Haridra Tail Pichu* in wound healing

Parameter	Mean Before Treatment	Mean After Treatment	Percentage Reduction (%)
Pain	3	0	**89%**
Itching	2	0	**96%**
Tenderness	2.5	0.2	**92%**
Smell	2.1	0.1	**95%**
Granulation	2.7	0.1	**96%**
Discharge	2.4	0.3	**87%**
Size	1.4	0.4	**71%**

Result :

The application of *Nimba Haridra Tail Pichu* demonstrated a highly significant impact on both subjective and objective wound healing parameters. Patients experienced a substantial reduction in pain and itching, with pain scores dropping by 89.0% and itching decreasing by 96.0%, indicating its effectiveness in alleviating wound-related discomfort. Additionally, objective parameters such as tenderness, smell intensity, Granulation, Discharge and wound size showed remarkable improvement, with reductions of 92.0%, 95.0%, 96%, 87% and 71% respectively. These findings strongly suggest that *Nimba Haridra Tail Pichu* not only accelerates wound healing but also enhances patient comfort, making it a promising therapeutic option in wound management.

The overall therapeutic outcomes demonstrated a highly significant improvement, with 66.0% of patients achieving complete recovery, 23.0% showing marked improvement, and 7.0% experiencing moderate improvement. Only 4.0% of patients showed no change in their condition. The statistical analysis confirmed the robustness of these findings, with a P-value < 0.001 across all parameters, highlighting the strong therapeutic efficacy of the treatment.

Discussion :

Chronic wounds pose a substantial challenge in clinical practice, often due to microbial contamination, poor vascularization, and systemic conditions that impair the natural healing process. The classical Ayurvedic approach, as outlined in *Sushruta Samhita*, emphasizes the conversion of *Dushta Vrana* into *Shuddha Vrana* through *Shodhana* (purification) followed by *Ropana* (healing process). The findings of this study highlight the significant therapeutic potential of *Nimba Haridra Tail Pichu* in the management of *Dushta Vrana* (infected non healing wounds) [7,8].

A statistically significant reduction ($p < 0.001$) was observed in both subjective and objective wound parameters, indicating improved patient outcomes. Pain and itching, the two primary subjective complaints, showed an 89.0% and 96.0% reduction, respectively, signifying substantial symptomatic relief. These findings align with the documented analgesic and anti-inflammatory properties of *Nimba* (Azadirachta indica) and *Haridra* (Curcuma longa), which are known to modulate inflammatory pathways

and enhance tissue regeneration [9,10].Furthermore, objective wound characteristics such as tenderness, foul smell, formation of healthy granulation tissue, reduction in discharge and wound size showed a significant improvement which supports the antimicrobial and wound-healing effects of the herbal formulation precisely of *Nimba* and *Haridra*[11].

These results are in concordance with previous studies that have explored the antiseptic, antioxidant, and tissue-regenerative roles of *Nimba* and *Haridra*. Their bioactive compounds, including nimbidin, curcumin, and azadirachtin, are known to promote fibroblast proliferation, angiogenesis, and extracellular matrix remodelling—key factors in expedited wound contraction [12].

Clinical Implications :

The integration of *Nimba Haridra Tail Pichu* into wound care protocols offers a natural, cost-effective, and safe alternative to conventional wound management strategies. Given the minimal risk of adverse effects, this approach can be particularly beneficial in chronic wound cases where prolonged antibiotic use poses risks of resistance and side effects.

Limitations & Future Scope :

While this study provides promising evidence, certain limitations must be acknowledged. The sample size was limited, and long-term follow-up data on recurrence rates were not included. Future studies should incorporate larger randomized controlled trials (RCTs) to validate these findings and explore comparative efficacy with modern wound care treatments. Additionally, histopathological and microbiological analyses could further elucidate the mechanisms by which Nimba Haridra Tail Pichu facilitates healing at the cellular level.

Conclusion :

The local application of *Nimba Haridra Tail Pichu* in the management of *Dushta Vrana* significantly improves both subjective and objective wound parameters. The observed reduction in pain, itching, tenderness, foul smell, granulation, discharge, and wound size suggests that this Ayurvedic formulation aligns with classical wound-healing principles and provides scientifically validated clinical benefits. These findings reinforce the therapeutic potential of Ayurvedic medicine in modern wound management, warranting further exploration through clinical trials and integrative medicine approaches.

Conflict of interest- Nil

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