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A CASE STUDY ON THE EFFECT OF *TILABHAYADI LEPA* IN *DUSHTA VRANA* WITH SPECIAL REFERENCE TO NON-HEALING ULCER

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ABSTRACT

Background: *Dushta Vrana* (non-healing ulcer) is a chronic wound characterized by foul smell, persistent purulent discharge, delayed healing, and resistance to conventional treatment. Despite advances in contemporary wound care, the management of chronic non-healing ulcers remains a significant clinical challenge. Ayurveda offers comprehensive management through *Shashti Upakrama* (sixty treatment modalities), among which *Lepa* (topical paste application) plays a crucial role in wound cleansing (*Shodhana*) and healing (*Ropana*). **Objective:** To evaluate the clinical efficacy of *Tilabhayadi Lepa* in the management of *Dushta Vrana* with special reference to non-healing ulcer. **Materials and Methods: A** 52-year-old male patient presented with a non-healing ulcer on the dorsum of the right foot, present for 8 months, associated with pain, foul-smelling purulent discharge, and surrounding erythema. The patient had previously received multiple courses of antibiotics and conventional wound dressings without significant improvement. *Tilabhayadi Lepa* was prepared as per classical reference and applied locally once daily after proper wound cleansing with lukewarm water. The patient was assessed weekly for 28 days using

subjective parameters (pain, smell, discharge) and objective parameters (wound size, granulation tissue). **Results:** Marked improvement was observed from the first week of treatment. Complete wound healing with healthy granulation tissue and epithelialization was achieved by the end of the fourth week. Significant reduction in pain, foul smell, and discharge was noted. No adverse effects were reported during the study period. **Conclusion:** *Tilabhayadi Lepa* demonstrated significant wound healing properties in the management of *Dushta Vrana*, acting as both a *Shodhana* (cleansing) and *Ropana* (healing) agent. The formulation was found to be safe, cost-effective, and easily applicable, making it a promising alternative for chronic non-healing ulcers.

KEYWORDS: *Dushta Vrana*, Non-healing ulcer, *Tilabhayadi Lepa*, *Shodhana*, *Ropana*, Wound healing.

INTRODUCTION

Vrana (ulcer) is defined in Ayurveda as a structural deformity of the skin and deeper structures (*Gaatravichurnana*), associated with *Ruja* (pain) and *Srava* (discharge). Acharya Sushruta, the father of Indian surgery, classified Vrana into two main categories: *Shuddha Vrana* (acute/healthy ulcer) which is easily treatable, and *Dushta Vrana* (chronic/infected ulcer) which takes a long time to heal and is resistant to treatment.[1]

Dushta Vrana is characterized by *Atigandha* (foul smell), *Pooya Srava* (purulent discharge), *Asruksravi* (blood-mixed discharge), and prolonged duration without healing.[2] According to Acharya Sushruta, *Dushta Vrana* arises due to vitiation of all three *Doshas* (*Vata*, *Pitta*, *Kapha*), often accompanied by *Dhatu Kshaya* (tissue depletion), *Sroto-Avarodha* (channel obstruction), or *Ama* (toxin accumulation).[3] The *Lakshanas* (symptoms) of *Dushta Vrana* are opposite to those of *Shuddha Vrana* in terms of intensity and chronicity.[4]

Contemporary medicine offers various modalities for wound management, including antibiotics, debridement, growth factors, and skin grafts. However, the management of chronic non-healing ulcers remains a difficult task due to issues like antibiotic resistance, poor vascularity, and underlying systemic diseases.[5] Therefore, there is an essential need to find effective, easily available, acceptable, and inexpensive treatment options for wound healing.

Acharya Sushruta described *Shashti Upakrama* (sixty treatment modalities) for the management of *Vrana*, among which *Lepa* (topical paste application) holds an important place. *Lepa* formulations possess both *Shodhana* (cleansing/purifying) and *Ropana* (healing) properties.[6] Tilabhayadi Lepa, mentioned in *Chakradatta Samhita* (Chapter 46, *Bhagandara Chikitsa*), consists of easily available, cost-effective ingredients with known wound healing properties.[7]

This case study aims to evaluate the clinical efficacy of *Tilabhayadi Lepa* in the management of *Dushta Vrana* with special reference to non-healing ulcer.

CASE PRESENTATION

- Name: Mr. R.K.
- Age: 52 years
- Gender: Male
- Occupation: Farmer
- Residence: Rural area, Uttar Pradesh
- Date of Presentation: January 15, 2024

Chief Complaints

The patient presented with a non-healing ulcer on the dorsum of the right foot for the past 8 months, associated with.

- Moderate to severe pain (Grade 2)
- Foul-smelling discharge (Grade 2)
- Surrounding erythema and edema
- Difficulty in walking and performing daily activities

History of Presenting Illness

The patient sustained a traumatic injury to the dorsum of the right foot while working in the fields approximately 8 months back. Initially, it was a small abrasion, which was neglected. Over time, the wound progressively increased in size and developed purulent discharge with foul smell. The patient consulted a local physician and received multiple courses of oral antibiotics (amoxicillin-clavulanate, ciprofloxacin) and topical antimicrobial creams (silver sulfadiazine, povidone-iodine) for several months. Despite treatment, the wound failed to

heal and continued to increase in size with persistent discharge. The patient was then referred to the Shalya Tantra OPD of Sanskriti Ayurvedic Medical College and Hospital, Mathura.

Past Medical History

- Diabetes Mellitus: Diagnosed 2 years back, on oral hypoglycemic agents (Metformin 500 mg twice daily); recent RBS: 142 mg/dL
- Hypertension: Diagnosed 3 years back, on Amlodipine 5 mg once daily; BP: 130/84 mmHg
- No history of: Tuberculosis, Asthma, COPD, CAD, CKD, HIV, or any psychiatric disorders

Personal History

- Diet: Mixed (non-vegetarian), irregular meal timings
- Appetite: Reduced
- Sleep: Disturbed due to pain
- Bowel and Bladder: Regular
- Addictions: Occasional alcohol consumption; no smoking
- Occupation: Farmer (involves prolonged standing and walking barefoot)

GENERAL EXAMINATION

Parameter Finding

- Pulse - 78/min, Rgular
- Blood Pressure - 130/84 mmHg
- Respiratory Rate - 18/min
- Temperature - Afebrile
- Pallor - Absent
- Icterus - Absent
- Edema - Localized around the ulcer
- Lymphadenopathy - Absent

Local Examination of the Ulcer

Parameter Finding

- Site - Dorsum of right foot
- Size - 6 cm × 4.5 cm (approximately 27 sq cm)

- Shape - Irregular, oval
- Edge - Undermined, irregular
- Floor - Rough, covered with slough
- Base - Indurated, fixed to underlying structures
- Discharge - Purulent, foul-smelling, moderate quantity
- Granulation Tissue - Pale, unhealthy, scanty (Grade 2)
- Pain - Moderate to severe (Grade 2)
- Smell - Tolerable foul smell (Grade 2)
- Surrounding Skin - Erythematous, edematous, hyperpigmented

INVESTIGATIONS

- Hemoglobin - 11.8 g/dL
- Total WBC Count - 11,200/cmm
- Neutrophils - 78%
- Lymphocytes - 18%
- Platelet Count - 2.8 lakhs/cmm
- RBS - 142 mg/dL
- Serum Bilirubin - 0.8 mg/dL
- HbsAg - Negative
- HIV - Negative
- Wound Swab Culture - Staphylococcus aureus (moderate growth)

Ayurvedic Assessment

Tridosha Analysis.

- *Vata*: Vitiated (pain, delayed healing, dry appearance)
- *Pitta*: Vitiated (erythema, discharge, burning sensation)
- *Kapha*: Vitiated (slough, foul smell, induration)

Srotas Involvement.

- *Rakta Vaha Srotas*: Vitiated (erythema, discharge)
- *Mamsa Vaha Srotas*: Vitiated (tissue destruction, poor granulation)
- *Medo Vaha Srotas*: Vitiated (induration, chronicity)

DIAGNOSIS

Dushta Vrana (chronic non-healing ulcer) with *Tridosha* vitiation, predominantly *Vata-Pitta-Kapha*.

INTERVENTION

Drug Preparation

Tilabhayadi Lepa was prepared as per the classical reference from *Chakradatta Samhita* (*Bhagandara Chikitsa Adhyaya*).[7]

Table No. 1 Ingredients of Tilabhayadi Lepa.

S.No.	Drug Name	Botanical Name	*Ras*	*Guna*	*Virya*	*Vipak*	*Karma*
1.	*Tila*	*Sesamum indicum*	*Madhura*	*Guru, Snigdha*	*Ushna*	*Madhura*	*Vata* balancing
2.	*Lodhra*	*Symplocos racemosa*	*Kashaya*	*Laghu, Ruksha*	*Sheeta*	*Katu*	*Chakshushya, Grahi, Kapha-Pitta hara*
3.	*Nimba Patra*	*Azadirachta indica*	*Tikta*	*Laghu, Ruksha*	*Sheeta*	*Katu*	*Pitta-Kaphahara*
4.	*Haridra*	*Curcuma longa*	*Tikta*	*Laghu, Ruksha*	*Ushna*	*Katu*	*Kapha-Pitta shamaka*
5.	*Daru Haridra*	*Berberis aristata*	*Tikta, Kashaya*	*Laghu, Ruksha*	*Ushna*	*Katu*	*Kapha-Pitta* balancing
6.	*Vacha*	*Acorus calamus*	*Katu, Tikta*	*Laghu, Tikshna*	*Ushna*	*Katu*	*Kapha-Vata* balancing
7.	*Kustha*	*Saussurea lappa*	*Tikta, Katu*	*Laghu, Ruksha, Tikshna*	*Sheeta*	*Katu*	*Vata-Kapha* balancing
8.	*Gruha Dhuma*	Soot of chimney					*Shodhana* property

METHOD OF PREPARATION

- All the ingredients were collected in dried form and cleaned properly.
- The drugs were powdered separately to a fine consistency.
- Equal quantities of all powdered ingredients were mixed thoroughly.
- The powder was stored in an airtight glass container.
- The Lepa was prepared fresh before each application by mixing the powder with lukewarm water to form a paste of uniform consistency.

MODE OF APPLICATION

Day 1 (Baseline Assessment).

- The wound was gently cleansed with lukewarm water (Prakshalana) to remove debris and surface exudates.
- Tilabhayadi Lepa was applied as a thick layer (approximately 2-3 mm) covering the entire wound surface and extending 1 cm beyond the wound margins.
- The wound was covered with sterile gauze and secured with a bandage.
- The dressing was changed once daily.

Follow-up Schedule

- The patient was instructed to visit the OPD every 7 days for assessment and dressing change.
- At each visit, wound assessment was done using the grading criteria.
- The dressing was changed and fresh Lepa was applied.

  Duration of Treatment: 28 days (4 weeks)

Advised Pathya-Apathya (Diet and Lifestyle)

Pathya (Wholesome)

- Light, easily digestible food
- Warm water for drinking
- Green leafy vegetables
- Whole grains
- Adequate protein intake
- Proper rest and elevation of the affected limb

Apathya (Unwholesome)

- Heavy, oily, spicy food
- Fermented foods
- Junk food
- Excessive walking or standing
- Exposure to dust and dirt

ASSESSMENT CRITERIA

Subjective Parameters

Table No. 2: Pain (Vedana) Criteria.

Grade	Description
Grade 0	No pain
Grade 1	Mild pain (tolerable)
Grade 2	Moderate pain (interferes with activity)
Grade 3	Severe pain (incapacitating)

Table no. 3: Smell (Gandha) Criteria.

Grade	Description
Grade 0	Absent
Grade 1	Minimum bad smell
Grade 2	Tolerable foul smell
Grade 3	Intolerable foul smell

Table no.4: Discharge (Srava) Criteria.

Grade	Description
Grade 0	No discharge
Grade 1	Wets 2×2 sq cm gauze
Grade 2	Wets 4×4 sq cm gauze
Grade 3	Wets more than 6×6 sq cm gauze
Grade 4	Wets more than 10×10 sq cm gauze

Objective Parameters

Table no.5: Wound Size (Parimana).

Grade	Description
Grade 0	Healed
Grade 1	Within 1-3 cm
Grade 2	Within 3-6 cm
Grade 3	Within 6-10 sq cm

Table no.6: Granulation Tissue (Mamsankura).

Grade	Description
Grade 0	Smooth and regular floor with healthy granulation
Grade 1	Smooth and regular floor with pale granulation without slough
Grade 2	Smooth and irregular floor with less granulation with slough
Grade 3	Rough floor, slough with no granulation tissue

RESULTS AND OBSERVATIONS

Table no. 7: Weekly Assessment.

Parameter	Day 0 (Baseline)	Day 7th	Day 14th	Day 21th	Day 28th
Pain	Grade 2	Grade 1	Grade 1	Grade 0	Grade 0
Smell	Grade 2	Grade 1	Grade 1	Grade 0	Grade 0
Discharge	Grade 2	Grade 1	Grade 1	Grade 0	Grade 0
Wound Size	6×4.5 cm	5×3.8 cm	3.5×2.5 cm	1.5×1 cm	Healed
Granulation Tissue	Grade 2	Grade 2	Grade 1	Grade 1	Grade 0

OBSERVATION SUMMARY

Week 1 (Day 7)

- Reduction in wound size to 5×3.8 cm
- Decrease in foul smell from Grade 2 to Grade 1
- Reduction in discharge quantity
- Pain reduced from Grade 2 to Grade 1
- Slough partially removed; pale granulation tissue visible

Week 2 (Day 14)

- Further reduction in wound size to 3.5×2.5 cm
- Smell decreased to Grade 1
- Discharge reduced to Grade 1
- Pain remained Grade 1
- Healthy granulation tissue starting to appear (Grade 1)
- Surrounding erythema and edema significantly reduced

Week 3 (Day 21)

- Wound size reduced to 1.5×1 cm
- Smell completely absent (Grade 0)
- Discharge minimal (Grade 0)
- Pain absent (Grade 0)
- Healthy granulation tissue covering the wound bed (Grade 1)
- Epithelialization observed from wound margins

Week 4 (Day 28)

- Complete wound healing with epithelialization.
- No pain, smell, or discharge.

- Healthy scar tissue formation (Grade 0).
- Surrounding skin normal in color and texture.
- Patient able to walk comfortably without pain.

DISCUSSION

Understanding *Dushta Vrana*

Dushta Vrana represents a chronic, non-healing ulcer that poses a significant therapeutic challenge in clinical practice. According to Acharya Sushruta, a Vrana that exhibits *Lakshanas* (features) opposite to those of *Shuddha Vrana*, with high intensity and chronicity, is termed *Dushta Vrana*.[8] The characteristic features include *Atigandha* (foul smell), *Pooya Srava* (purulent discharge), *Asruksravi* (blood-mixed discharge), and prolonged duration.[9]

In contemporary terms, *Dushta Vrana* can be correlated with chronic infected wounds, pressure ulcers, diabetic foot ulcers, venous ulcers, and post-traumatic non-healing ulcers. The pathogenesis involves vitiation of all three *Doshas*, leading to impaired tissue regeneration, persistent infection, and delayed wound healing.[10]

Pharmacological Action of *Tilabhayadi Lepa*

Tilabhayadi Lepa is a polyherbal formulation with synergistic wound healing properties. The components of the formulation contribute to both *Shodhana* (cleansing) and *Ropana* (healing) actions.

- ***Tila* (*Sesamum indicum*):** *Sesame* seeds contain vitamins A, B, C, and E, along with minerals like magnesium, calcium, copper, iron, zinc, and phosphorus.[11] The oil possesses anti-inflammatory, antibacterial, and antifungal properties. It nourishes the skin, improves blood circulation, and promotes the recovery of damaged cells.[12] The *Ushna* (hot) *Virya* and *Madhura Vipaka* help balance *Vata Dosha*, which is essential for wound healing.
- ***Lodhra* (*Symplocos racemosa*):** With *Kashaya Rasa*, *Sheeta Virya*, and *Katu Vipaka*, *Lodhra* possesses *Grahi* (absorbent) properties. It is *Kapha-Pittahara* and *Chakshushya* (beneficial for eyes). Its astringent property helps in wound contraction and reducing discharge.[13]
- ***Nimba Patra* (*Azadirachta indica*):** *Neem* is well-known for its antimicrobial, antifungal, and anti-inflammatory properties. Its *Tikta Rasa*, *Laghu-Ruksha Guna*, and *Sheeta Virya*

make it *Pitta-Kaphahara*. *Neem* acts as a potent *Shodhana* agent, cleansing the wound of infection and promoting healing.[14]

- ***Haridra* (*Curcuma longa*):** Turmeric contains curcumin, which has potent anti-inflammatory, antioxidant, and antimicrobial properties. Its *Tikta Rasa*, *Laghu-Ruksha Guna*, *Ushna Virya*, and *Katu Vipaka* make it *Kapha-Pitta shamaka*. *Haridra* promotes wound contraction, enhances granulation tissue formation, and accelerates epithelialization.[15]
- ***Daruharidra* (*Berberis aristata*):** With *Tikta-Kashaya Rasa*, *Laghu-Ruksha Guna*, *Ushna Virya*, and *Katu Vipaka*, *Daruharidra* balances *Kapha* and *Pitta Doshas*. It possesses antimicrobial and wound healing properties, making it effective in infected wounds.[16]
- ***Vacha* (*Acorus calamus*):** *Vacha* has *Katu-Tikta Rasa*, *Laghu-Tikshna Guna*, *Ushna Virya*, and *Katu Vipaka*. It balances *Kapha* and *Vata* Doshas and possesses antimicrobial and anti-inflammatory properties.[17]
- ***Kushta* (Saussurea lappa):** With *Tikta-Katu Rasa*, *Laghu-Ruksha-Tikshna Guna*, *Sheeta Virya*, and *Katu Vipaka*, *Kushta* balances *Vata* and *Kapha Doshas*. It has anti-inflammatory and wound healing properties.[18]
- ***Gruha Dhuma* (Soot of chimney):** Acts as a *Shodhana* agent, helping in wound cleansing and debridement.

Mechanism of Action

The synergistic action of Tilabhayadi Lepa can be understood through multiple mechanisms:

- Antimicrobial Action: Components like *Nimba*, *Haridra*, and *Daruharidra* possess broad-spectrum antimicrobial activity, reducing the bacterial load in the wound and preventing secondary infection.[19]
- Anti-inflammatory Action: *Haridra*, *Kushta*, and Vacha have potent anti-inflammatory properties, reducing edema, erythema, and pain.[20]
- Promotion of Granulation Tissue: *Tila*, *Lodhra*, and *Haridra* promote angiogenesis and fibroblast proliferation, enhancing granulation tissue formation.[21]
- Wound Contraction and Epithelialization: The astringent properties of *Lodhra* and the tissue-regenerating properties of *Tila* and *Haridra* promote wound contraction and epithelialization.[22]

- *Dosha* Balancing: The formulation balances all three *Doshas*—*Vata* (through Tila and Kushta), *Pitta* (through *Lodhra*, *Nimba*, and *Haridra*), and *Kapha* (through *Haridra*, *Daruharidra*, and *Vacha*)—addressing the root cause of *Dushta Vrana*.[23]

Significance of the Study

This case study demonstrates the potential of *Tilabhayadi Lepa* as an effective, safe, and cost-effective treatment option for *Dushta Vrana*. The key advantages include.

Easy availability of ingredients

- Cost-effective preparation
- Simple application technique
- No adverse effects reported
- Holistic approach addressing both local and systemic factors
- Compliance with Ayurvedic principles of wound management

CONCLUSION

Dushta Vrana (non-healing ulcer) remains a significant clinical challenge despite advances in modern wound care. Ayurveda offers comprehensive management through *Shashti Upakrama*, among which *Lepa* application plays a crucial role. *Tilabhayadi Lepa*, with its combination of Tila, *Lodhra*, *Nimba*, *Haridra*, *Daruharidra*, *Vacha*, *Kushta*, and *Gruha Dhuma*, possesses synergistic *Shodhana* (cleansing) and *Ropana* (healing) properties.

This case study demonstrated that Tilabhayadi Lepa is effective in promoting wound healing in *Dushta Vrana*, with significant reduction in pain, foul smell, discharge, and wound size, along with healthy granulation tissue formation and complete epithelialization within 28 days. The formulation was found to be safe, well-tolerated, and cost-effective.

The findings support the research hypothesis that *Tilabhayadi Lepa* has a significant effect in the management of *Dushta Vrana*. However, larger randomized controlled trials with longer follow-up periods are recommended to validate these findings and establish *Tilabhayadi Lepa* as a standard treatment option for chronic non-healing ulcers.

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