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A CASE STUDY ON THE ROLE OF NIMBA KALKA LEPA IN THE MANAGEMENT OF DUSHTA VRANA

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ABSTRACT

Sushruta described various types of *Vrana* (wounds) and their management, forming the basis of surgical practice. Despite advances in modern surgery that have reduced infection rates and improved healing outcomes, chronic non-healing wounds (*Dushta Vrana*) remain a clinical challenge. Delayed healing may result from persistent etiological factors that disrupt the normal repair process .Ayurvedic texts recommend modalities such as *Vrana Shodhana* (wound cleansing) and *Vrana Ropana* (wound healing), with emphasis on appropriate local management. This case report describes a 60-year-old female with a chronic non-healing ulcer over the right heel with purulent discharge, managed with *Vrana Lepa* as localized therapy. Significant clinical improvement was observed following treatment.

Keywords: Dushta Vrana, Shodhana, Ropana ,Vrana Lepa ,Kalka ,Nimba Kalka, Neem.

INTRODUCTION:

Vrana (wound) refers to damage of body tissues that ultimately results in scar formation after healing. Ancient Indian literature contains extensive references to *Vrana* and *Vrana Ropana* (wound healing), and Ayurvedic texts describe various therapeutic approaches aimed at effective and accessible wound management, including patient care and the exploration of new treatment modalities.

Dushta Vrana (non-healing wound) is frequently encountered in surgical practice and may adversely affect the patient's overall condition, leading to complications. Proper management of post-surgical wounds should adhere to the principles of moist wound healing and avoid substances that interfere with the normal repair process. The Sushruta Samhita provides a comprehensive account of wound management. Sushruta described sixty therapeutic measures (*Shashti Upakrama*) in the *Chikitsa Sthana* for treating wounds under various conditions and detailed different types of *Vrana* along with their management, underscoring their importance in surgical practice. Despite significant advancements in modern surgery that have reduced infection rates and minimized factors impeding healing, wound management remains challenging. Although wound healing is a natural physiological process, interference from causative factors may convert it into *Dushta Vrana*, delaying recovery. Therefore, the primary objective of surgical care is to promote timely healing with minimal scarring and effective pain control.

Aims and Objective: To assess the clinical efficacy of Nimba Kalka (trial drug) for wound healing.

MATERIALS AND METHODS

Drug content

An innovative preparation with healing properties, described in Sushruta Samhita, was prepared with kalka kalpana[9] in the pharmacy of our institute.

In the preparation, NimbaPatra (*Azadirachta Indica*) was taken.

Drug preparation: After the identification of raw herbal drugs, authentication was obtained

from the Dravya Guna department, and kalka was prepared as per the classical reference of kalka kalpana[9].

Criteria for Assessment

- The subjective parameters of pain and tenderness.
- Objective parameters of size, color, floor, margin, discharge, and granulation tissue were recorded based on the score adopted with grading (0, 1, 2 and 3).
- After treatment, the scar was assessed based on gradation (0, 1, 2 and 3).
- Criteria for assessing the total effect of therapy are given in Table 2.

CASE REPORT

A 60-year-old female presented with a chronic non-healing ulcer over the right heel with purulent discharge. The lesion increased in size day by day, and the wound got infected and progressed deeply. She consulted a general surgeon, who advised debridement and correction of the wound by closing; there was no history of Diabetes mellitus or hypertension. The family history was also not significant with the patient's disorder.

METHODOLOGY

Preparation of Nimba Kalka (Neem Paste)

Table 1: Pharmacodynamics properties of drug[5,8]

Drug	Rasa	Guna	Virya	Vipaka	Karma
Nimba	Tikta, Kashaya	Laghu	Sheeta	Katu	Vata Kaphaghna

Nimba Patra (*Azadirachta Indica*) was washed thoroughly, and kalka (paste) was prepared out of Nimba Patra in the pharmacy. About 20 gm of kalka was prepared, and 10 gm was used for local application twice daily.

Application

- Chedana (excision) of Lesion done under all aseptic measures,
- The post-excision wound was cleaned with Panchavalkala kashaya .After drying with sterile gauze, Nimba Kalka lepa was topically applied over the wound, followed by an appropriate size sterile pad placed and dressing secured with bandage without compressing circulation, a method done twice daily.

Local examination of lesion

Site: Post auricular right ear Size: 2 X 3 cm

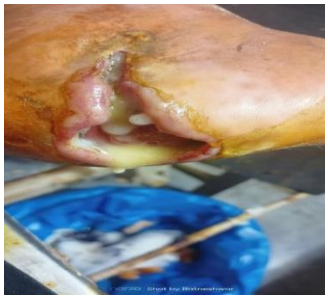
Color of Lesion: Blackish Number: One

Discharge absent Margin: Irregular Mobility: Movable

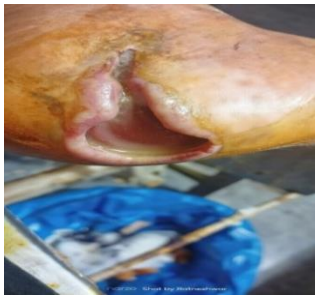
Tenderness: Absent

Table2: Criteria for Assessment of total effect of therapy

Result	Criteria
Markedly improved	100%Relief in Lakshana(signs and symptoms)along with complete healing of wound within 21days
Marked	Responded for any 2-3Lakshana(signs and symptoms)along with complete healing of wound within 21-30 days
Improvement	26-75%relief in Lakshana signs and symptoms along with complete healing of wound within 21-30days
No improvement	No response.



Day 1



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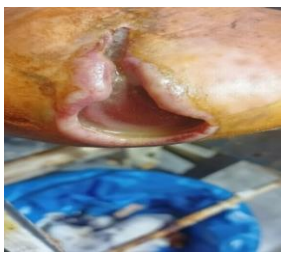

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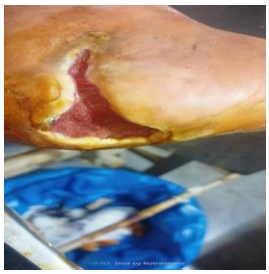

Day 30

RESULT AND DISCUSSION

The wound started healing within 30 days with good results in normal colour formation without any complication,which proved thev vaikritapaham (remove residual sequels of ulcer) property of preparation. Local application of Nimba Kalka provided good results by reducing wound size and promoting healing , and it proved to be cosmetically effective with the least scar formation.

The clinical features of Dusta Vrana(non-healing ulcer)improved around 4th week, and the wound completely healed at the end of 5th week. On the concept of wound management,all efforts have been made to keep it clean during treatment, i.e. shodhana. An ideal debridement agent should not damage the surrounding healthy tissue of Dusta Vrana (contaminated wound) and must be capable of performing debridement effectively.

Lepa and bandhana (topical agent and bandage) are among the therapies chosen for shasti upakrama. A different form of external application is described for the convenience of treatment of wounds.

Lepa is a herbomineral preparation used for external applications. The main basic concept of lepa is that wet drug are founded into

Fine paste form, and dry drugs are pounded into fine powder form and mixed with any liquid media according to the demand of a particular disease condition.

Lepa does shodhana (cleansing of ulcer), utsadana (elevation of ulcer), ropana (healing of ulcer) and shophagna (anti- inflammatory); hence is chosen therapy.

Wound healing phases: Inflammatory, proliferative and remodeling ,granulation ,collagen maturation and scar formation are phases which run concurrently and are independent of each other .Dusta vrana is managed based on the involvement of dosha, site and inflammatory changes[2,3].Management given by Acharya Sushruta is mainly two ,i.e.Vrana(wound) and vrani(wounded) among sixty procedures told it includes measures to control vitiated dosha, controlling inflammation, surgical measures and measures of non-healing wounds[4].

Nimba (Neem): Neem trees contain pharmacological constituents offering impressive therapeutic qualities, such as anti-viral, anti-fungal, antibacterial, anti-inflammatory, analgesic, and anti-carcinogenic. It has a complex of various constituents, including nimbin, nimbidin, nimbolide, quercetin, and sitosterol polyphenolic flavonoids from fresh leaves known to have anti-fungal, antibacterial activities. Therefore, we can see that Neem boosts the immune system

on all levels while helping the body fight infections. Nimba does not destroy beneficial bacteria and other microorganisms needed to maintain optimum health. [10-14]

Neem has an almost magical effect on chronic skin conditions that often fail to respond to classical treatments. Psoriasis, eczema, fungal infections ,skin ulcers .Neem product is utilized. Synthetic chemicals used to treat these conditions can produce adverse side effects such as allergic reactions and skin redness. Studies are currently underway to try to understand the skin-rejuvenating properties of Neem.

CONCLUSION

To conclude, we can say that with the external application of Nimba Kalka lepa, the repair process was not complicated by infection, so there was no interference with the general health of the patient.

All the systemic functions were undisturbed; at the local site of the wound, the part was at an average temperature, had a natural colour, had granulation tissue, and was free from pain. It can be concluded that the drug effect of Nimba Kalka lepa possesses significant efficacy in Vrana ropana (healing) with fine scaring without producing any adverse effect. So, it can be recommended as a cost-effective, easy to prepare and effective therapy for wound healing**.**

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