



## Role of Nimba Taila in Non Healing Wound a Case Study

Dr. Jyoti Tanpure Chopde<sup>1\*</sup>, Dr. Swapnali mange<sup>2\*</sup>, Dr. Yawatkar<sup>3\*</sup>

<sup>1</sup>Associate Professor, <sup>2</sup>PG DIPLOMA D. DERMATOLOGY Scholar, <sup>3</sup>Professor, Department of Kayachikitsa, SVNHT'S Ayurved Mahavidyalaya, Rahuri factori, Ahmednagar – 413706, Maharashtra, India.

### ABSTRACT:

The management of wound has been a major problem since the early stages of medical science. In spite of brilliant progress of in surgery, wound management still remains a subject of speculation. The early manifestation of unsatisfactory wound healing gives rise to serious complications which can lead to prolonged healing and even death due to sepsis in practice. Ancient treaties are a reservoir of knowledge regarding medicinal plants, and exploration of these medicinal plants from them is an important step in global acceptance of natural plants reservoir. In Ayurveda, the term Vrana is equated to wound of modern parlance. Slough formation, pus discharge, foul smell, edema, chronicity of wound are the main clinical features of dushtavrana and the drugs having both Vranashodhana (wound cleansing) and Vranaropana (wound healing) properties play an important role in management of a non healing wound (Dushta vrana). Considering this, single and compound formulations having Vrana shodhana and Vranaropana properties, Azadiracta indica- Nimba can prove beneficial in practice while treating a wound as well as a non healing wound. Hence a Clinical case study on wound management through are Ayurvedic drugs & Nimba Taila application is reviewed and presented.

**KEYWORDS:** Dushta vana, Non healing wound, Nimba Taila, Azadiracta indica

Received 25 Apr., 2023; Revised 03 May, 2023; Accepted 05 May, 2023 © The author(s) 2023.

Published with open access at [www.questjournals.org](http://www.questjournals.org)

### I. INTRODUCTION:

The wound is the physical injuries leading to the damage of cellular and anatomical architecture of skin, mucus membrane, or underlying tissues. Wound healing is the normal phenomenon of body which involves the sequential process of phagocytosis. Its healing is a very complex and multifaceted phenomenon includes a series of pathophysiological, biochemical, and cellular changes. Inflammation, proliferation, remodeling and reepithelization are the three basic steps in wound healing. But at times when infection is massive surface area of wound is very large necrotic area and sloughs are formed in very large amount due to which auto cleansing activity of body becomes inadequate Various factors influence the healing process, leading to serious complications which can lead to prolonged healing and even death due to sepsis, that's why it is still a challenge before health care practitioner in practice.

### Mechanism of wound healing:

The wound healing is a natural phenomenon which starts immediately after injury and continues in sequential manner till the formation of a healthy scar. This event is not uniformly present as a rule under different conditions of wound. Certain general factors such as age, nutritional deficiency, hormonal imbalance and various systemic diseases like anaemia, uraemia, jaundice, diabetes etc. and certain local factors like position of skin wound, blood supply, tension, infection, foreign body etc. either alone or in combination influences the normal sequence of wound healing.

Upon injury to the skin, a set of complex biochemical events takes place in a closely orchestrated cascade to repair the damage. The classic model of wound healing is divided into four sequential, yet overlapping phases (1). Haemostasis (2). Inflammatory (3). Proliferative and (4). Remodeling. The phase of maturation and remodeling is not only complex but fragile and susceptible to interruption or failure leading to the formation of chronic non-healing wounds. Factors which may contribute to this include diabetes, venous or arterial disease, old age, and infection. Delayed wound healing in diabetes is due to microangiopathy, atherosclerosis, and proliferation of bacteria due to high blood sugar. Healing methods are same in different system of medicine whatever it may be allopath or Ayurveda i.e. to protect wound from microorganisms and to increase granulation tissue formation and epithelization.

In Ayurveda, the wound (Vrana) has been described as a main subject in Sushruta Samhita by Sushruta, the father of Indian surgery. He has described the wound from its different aspects right from the definition, causes etc. to the treatment of the scar tissues. Vrana (wound) is stated as -“Vrana gatravichurne” i.e. destruction and discoloration of viable tissue due to various etiology. Agnivesha expanded the knowledge of wound and gave its detailed description including classification, sign, symptom, prognosis and thirty six Upakrama (essential procedures) for its management.

Type of wounds Ayurveda classifies the Vrana into two types :

- (a) Dushta vrana: (i.e. chronic wound/Nonhealing ulcers) are the contaminated wounds which require specific purification, called Vrana shodhana, without which healing cannot be initiated in the wounds.
- (b) Shuddha vrana: The cause of such Vrana is generally a surgeon's knife & this type of Vrana does not require any specific treatment except its protection from various contaminations.

In Ayurvedic sciences, the concept of different types of the wound is mention under one umbrella of Vrana. Slough formation, pus discharge, foul smell, oedema, chronicity of wound are the main clinical features of dushtavrana. Acharya Sushruta Also described its various forms such as Vidradhi (abscess), Nadivrana (sinuses), Dustavrana (septic wounds), and Prameha pidaka (diabetic carbuncle). There are different 60 therapeutic steps are advised for the wound healing process called as Shashti Upkramas in vrana chikitsa.

Traditional medicines contribute at least one-third of wound care remedies worldwide. Numbers of plants are used in these steps for various purposes such as healing, purification, disinfection, bandaging, pigmenting procedures, and fumigation . Drugs having both Vranashodhana (wound cleansing) and Vranaropana (wound healing) properties play an important role in management of a vrana as well non healing wound (Dushta vrana). Considering this, single and compound formulations having Vrana shodhana and Vranaropana properties, Azadirachta indica- Nimba can prove beneficial in practice while treating a wound as well as a non healing wound. Hence In the present article, an attempt was made to manage a non healing wound through ayurvedic drugs only and specifically wound healing was observed with Nimba Taila application. This case study reviewed and presented further in case report. However, there is a need for more scientific validation, standardization and safety evaluation of plants of the traditional medicine recommended for healing of the wounds.

Wound healing plants in Ayurveda, many plants having the wound healing properties are described. These natural agents induce healing and regeneration of the lost tissue by multiple mechanisms. Out of which, Azadirachta indica- Nimba can prove beneficial in therapeutic practice for the management of wound as well a non healing wound, as it has vrana shodhana an vrana ropan both properties, as discussed previously.

Nimba seed in form of oil is externally applied to wound and it performs good Ropana (healing) in Vrana. The Bark of Azadirachta indica is being used by several Indian tribes as an antifungal, antiseptic, astringent in several skin diseases, boils and blisters, eczema etc. from centuries. Modern scientific research has proved it to be antimicrobial, fungi static, fungicidal, anti-inflammatory, antioxidant, and free radical scavenger, useful in ulcers, infections and skin diseases. Bark of Azadirachta indica contains polyphenols which are well known powerful antioxidants that scavenge free radicals, promote dermal fibrosis and improve wound healing and acts as an anti-inflammatory reagent.

## **II. CASE REPORT:**

A 35 year old female came to our hospital with complain of unhealed wound since 6 months. There was history of pain, pus discharge, foul smelling and slough formation, slight swelling and no history of fever. There was no any aggravating and elevating factors. Patient was treated with antibiotic ointment and cleansing with povidine iodine was done but no improvement was seen. There was no history of diabetes, hypertension, malignancies and metabolic disorder. There was no any significant family history. All routine investigations were normal.

**Local examination :** the floor was covered with slough, edges were inflamed. There was tenderness with surrounding indurations and local rise in temperature.

On the basis of local examination and history given by patient it was diagnosed as dushtavarana(non healing wound).

## **III. MATERIALS AND METHODS:**

As discussed prior According to acharya Shushruta there are sixty (shasti) upakramas of vranachikitsa. In this case upakramas like lekhan, prakshalana, lepa and kashayapaana are done to treat dushtavrana.

1. Lekhan – every day debridment of wond done till bleeding point where healthy granulation tissue was seen. Initial 5 days it was quite a lot slough coming out but as our treatment & nimba taila application started woking, only healthy granulation tissue was observed. Later only if required scrapping (lekhan) was done.

2. Prakshalana with panch valkal kwath – daily for 21 days till granulation tissue was observed cleansing of wound with Panchawalkal kwath is done. Once normal skin covered the wound area then we stopped it.
3. Local application of neem oil – nimba oil was poured liberally over the wound daily till the granulation tissue was seen. Later after the skin covered the wound then normal application of nimba oil continued till normal skin colour achieved.
4. Per oral intake – internal ayurvedic medications was given to so that the wound healing occurs easily and naturally.
  - A. Aarogyavardini vati 250 mg X 2-0-2
  - B. Trifala guggul 250mg x 2-2-2
  - C. Sukshma Trifala 125mg x 2-2-2
  - D. Mahamanjisthakwath 20ml twice a day with equal amount of water

Above treatment was given for a period of 21 days to the patient. With follow up for a period of one month patient has shown no sign of recurrence.

#### **IV. Discussion :**

Vranasodhana and vranaropana property of neem oil facilitates wound cleansing and wound healing. Nimba is having properties like Sheeta Virya, Tikta and Katu rasa. It is having functions like Chedana, Bhedana and Lekhana can be useful in the management of Dushta Vrana. As a result of breaking of pus pockets of unhealthy tissue, pus discharge gets reduces. If pus discharge continues to occur Krimighna property of Nimba is helpful to cure it. The itching is controls by Kandughna property of Nimba and burning sensation gets reduces by Sheeta Virya quality of Nimba. Pus discharge disappeared by quality of Vrana Shodhana in Nimba.

Panchavalkalkwath has vranaropana, sothahar, upadamshhara, visarpahara properties due to which fast wound healing takes place. Manjistha is well known for its ropana property Kaishor guggul has anti allergic, anti bacterial and blood purifying properties due to which non healing wounds are cured. Arogyavardinivati is classical herbomineral preparation the symptoms and clinical features of dushtavrana(non healing wound) was cleared. All the used ayurvedic regimen has anti microbial, anti-inflammatory & wound healing in nature due to which it played a major supportive role in healing of dushtavrana along with main topical application of nimba taila.

#### **V. CONCLUSION :**

Wound healing is a normal physiological phenomenon starting just after injury but factors like nutritional deficiency, hormonal imbalance, systemic diseases and local factors such as infections, hematoma, and foreign body etc. delays normal healing resulting into non-healing ulcer. Nimba Taila Oil have immense potential for the management and treatment of a non healing wounds. The wound healing through plants are cheap, affordable and safe as hyper sensitivity reactions are very rare. These natural agents induce healing and regeneration of the lost tissue by multiple mechanisms. However, there is a need for scientific validation, standardization and safety evaluation of these traditional medicinal plants before these could be recommended for healing of the wounds.

#### **REFERENCES :**

- [1]. Sushruta, Dvivraniya Chikitsa. In: Dr. Ambikadatta Shastri Sushruta Samhita (Sushruta and Nagarjuna), Reprint. Varanasi, India: Chaukhambha Sanskrit, Sansthan; 2007;3.
- [2]. Agnivesha, Dvivraniya Chikitsa. In: Shri Kashi Nath Shastri & Gorakhnath Chaturvedi. Charaka Samhita (Charaka and Dridhabala), Reprint. Varanasi, India: Chaukhambha Bharti Academy; 2004; 698- 703.
- [3]. Somen Das. A concise text book of surgery. 5th ed. Calcutta, India: Dr. S. Das Publishers; 2008.
- [4]. Stadelmann WK, Digenis AG, Tobin GR. Physiology and healing dynamics of chronic cutaneous wounds. American journal of surgery 1998; 176 Suppl 2A: 26S–38S.
- [5]. Dr. Rajgopal Shenoy K. Manipal manual of surgery. 2nd ed. New Delhi, India: CBS Publishers & Distributors; 2005.
- [6]. Sushruta, Dravyasangrahaneya Adhyaya (S. S. Su. 38/7). In: Dr. Ambikadatta Shastri Sushruta Samhita (Sushruta and Nagarjuna), Reprint. Varanasi, India: Chaukhambha Sanskrit Sansthan; 2006; 142
- [7]. Bhavamishra, K C Chunekar Bhava prakash nighantu Guduchyadi Varga slok 94, Chaukhambha Bharti Academy; Reprint 2006; 328.
- [8]. Agnivesha, Kustha Chikitsa. In: Shri Kashi Nath Shastri & Gorakhnath Chaturvedi. Charaka Samhita (Charaka and Dridhabala), Reprint. Varanasi, India: Chaukhambha Bharti Academy; 2004; 259 & 264.
- [9]. Naithani V. Bark of Indian Medicinal Plants: An Introduction. 1st ed. Shahdara, Delhi India: Paperlinks publishers; 2009.
- [10]. Wolinsky LE, Mania S, Nachnani S, Ling, S. The inhibiting effect of aqueous Azadirachta indica (Neem) extract upon bacterial properties influencing in vitro plaque formation. J Dent Res., 1996; 75: 816-822.
- [11]. Bandyopadhyay U, Biswas K, Sengupta A, Moitra P, Dutta P, Sarkar D et al. Clinical studies on the effect of Neem (Azadirachta indica) bark extract on gastric secretion and gastroduodenal ulcer. Life Sci. 2004; 75: 2867-2878.

- [12]. Subapriya R, Nagini S. Medicinal properties of neem leaves: a review. *Curr. Med. Chem. Anticancer Agents* 2005; 5: 149-156.
- [13]. B. Venkateswarlu, C. Muralikrishna , K. Midhuna Mohan , K. Anumol , G.Babu Review on wound healing therapeutic regimens in Ayurveda ISSN: 2322 -0902(P)
- [14]. Manjunath.C.M, M.N.Hiremath, Raghuvveer Nimba (Azadirachta Indica) Pratisaraneeya Teekshna Kshara : A Comprehensive Review ISSN: 2322-0902 (P)