Efficacy of Plaksha (*Ficus lacor*) Ointment in the Management of Non-Healing Ulcer W.R.T. Dustavrana

P.B. Jondhale\(^1\), S.A. Atram\(^2\), B. A. Atram\(^3\)

1- Professor, Dr. D.Y. Patil College of Ayurved and research Centre, Pimpri, Pune, Maharashtra  
2- Asso. Professor, CARC, Akurdi, PuneShirwal, Satara, Maharashtra,  
3- Asso. Professor, Y.CAMC, Aurangabad, Maharashtra

**ABSTRACT**

Chronic infected wound or non-healing ulcer is a commonly encountered problem faced in surgical practice. Wound healing property is most important pharmacological activity of Plaksha or *Ficus lacor* described by acharya Charaka and Bhavprakash. A 55 yrs old male patient of non-healing ulcer having history of traumatic injury on right leg medially above the ankle joint. Wound was irregular with hyper keratonized edges, purulent discharge with foul smell, itching, redness with inflammation. Wound was cleaned with normal saline with aseptic precautions and malhar or ointment was used as external application for dressing on every day for one month and on alternate day for half month. Malhar or ointment was prepared on the basis of ‘Ras taranngini’, an ancient compendium. Vitamin C, B complex and zinc supplement was given orally. At the end of one and half month wound was healed with healthy granulation tissue, purulent discharge and foul smell was totally absent.

**KEYWORDS:** malhar, plaksha, Ras taranngini, Bhavprakash, Charaka, plaksha

**INTRODUCTION:**

Acharya Sushruta has described chronic infected wound as Dushta Vrana\(^1\). Dushta(infected) means degraded, damaged, spoiled, injured etc. Dushta Vrana(infected wound) is an excessively damaged external injury with exudation of Pus, pain, temperature, inflammation, redness, itching and also oozing with no intention to heal. A clean wound in a normal body heal earlier with a minimum scar as compared to infected wound. Wound healing is natural mechanism of body but several factors affects the normal process of wound healing such as malnutrition, metabolic disorders, infections, poor hygiene, poor cleaning and
dressing of the wound. Infected Wound needs cleaning and wound healing treatment. Acharya Sushruta has described the Shashthiupakrama & Saptupakrama. These are the different procedures for wound management.

Ancient literature like Bhavprakash nighantu, Charak samhita, Sushrut samhita revealed that Plaksha (Ficus lacor) is having potential of all types of wound healing properties. It contains Bergenine, Caffeine, Saponine, Flavonoids, Alkaloids, Steroids, Terpenoids. Acharya Charaka has described its application on wound.

CASE REPORT:

A 55 year old male presented with the complaints of a wound medially above ankle joint, associated with pain, discharge, slough with unhealthy granulation tissues., foul smell, edema and discoloration of the skin near by the wound, temperature was not raised. H/O of trauma before 10-12 days. On local examination there is no varicosity in the affected limb. The family history was not suggestive of anything specific. The local examination revealed irregular shaped wound medially, above the ankle joint of the right foot (approx. 7x4 cm) associated with pain, discharge etc. The classical symptoms of infected wound such as foul smell, purulent discharge, pain, inflammation etc were observed. Routine hematolgy (Hb, TLC, DLC, RBCs, BSL) and urine investigations were within normal limits. HIV test was negative, ESR was slightly raised. Chest X-ray was clear, local X-ray of ankle region was also clear, no foreign body or osteomyelitis.

MATERIAL AND METHODS:

Mature bark of Ficus lacor was collected in the month of Octomber. Identification & authentication was done. Qualitative & quantitative analysis was done. Pharmacognostic study was conducted in pharmacognosy laboratory. TLC was performed. Solvent system- Toluene & ethyl acetate in 70:30 proportion.

Malhar Preparation:
Sikta tail (Rasataringini) prepared by 1:5 proportion then added aqua. Extract of stem bark (ficus lacor). Tritration done for 15 min. by forming homogenous mixture. Analysis of final product (Malhar) was performed. Sikta Tail is prepared by adding honeybee wax in sesame oil. After heating the mixture the wax melts. It allow to cool this mixture, it appears like butter.

Ficus lacor ointment
Table No.1: Ointment (malahar) parameters analysis

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Colour</td>
<td>Brownish</td>
</tr>
<tr>
<td>Odour</td>
<td>Pleasant</td>
</tr>
<tr>
<td>State</td>
<td>Semisolid</td>
</tr>
<tr>
<td>PH</td>
<td>5.9</td>
</tr>
<tr>
<td>Spreadability</td>
<td>Easily spreadable</td>
</tr>
<tr>
<td>Irritancy</td>
<td>Non irritant</td>
</tr>
<tr>
<td>After Fill</td>
<td>Soothing and cooling</td>
</tr>
<tr>
<td>Extrudability</td>
<td>550</td>
</tr>
</tbody>
</table>

**TREATMENT:**

Patients' wound was washed with normal saline with aseptic precaution. Slough removed. Ointment or malahar applied and gauze dressing was done every day in the morning for thirty days and after that on alternate day for fifteen days as per schedule mentioned above for 45 days. Follow up of patient – 12th, 24th, 36th and 45th day was taken. Vit. B and C along with zinc was given orally.

1. **Wound size measurement:**
   The purpose of any wound measurement is to monitor the progress of healing through changes in length, width, area color of the wound. This can be done using following standard techniques like-
   1. Simple measurement (2 diamentional)
   2. Wound tracing (2 diamentional)
   3. Scaled photography
   4. Planimetric
   5. Computerized steriophotogrammetry
   6. Moulds (3 diamentional)
   7. A Kudin Gauze

   Among these techniques we will follow two diamentional techniques and scaled photography for assessment of wound size.

**Gradations for subjective parameters:**

**Vedana (Pain)**

- No Pain
- Moderate Pain
- Worst Pain

Calculated on Visual Analog Scale 0 – No pain (VAS score 0)

1. Mild pain (VAS score 1-3)
2. Moderate pain (VAS score 4-6)
3. Sever pain (VAS score 7-10)

**Daha (Burnig Sensation)**

1. No burning
2. Little, Localized and sometime feeling of burning sensation
3. Moderate , Localized and sometime feeling of burning sensation
4. More, localized and often burning sensation which does not disturb sleep

**Kandu (Itching)**

1. No Itching
2. Slight, Localized itching sensation
3. Moderate, Localized itching sensation disturb work intermittently
   3 More, Localised and often itching but not disturb sleep

**Gandha (Mal-odour)**
1. Absent
2. Mild Bad Smell
3. Moderate Bad Smell
4. Unpleasant Smell but tolerable

**Gradations for objective parameters:**

**A) T.I.M.E Assessment (According to Modern science)**

T. Tissue-
   a. Viable
   b. Non- viable

I.- Infection-
   a. Signs of infection like- presence of pus, pain, malodour.

M.- moisture imbalance- exudates level-
   a. Dry
      a. Minimal
      b. moderate
      c. wet

E.-Epidermal margin-
   a. Advancing
   b. Non- Advancing

**B) T.I.M.E Assessment (According to Ayurveda)**

Vrana Varna(Colour)
1. Normal pigmentation of skin
2. Pink colour
3. reddish colour
4. Pale yellow

Vrana Strava (Discharge)
After opening the bandage
1. No Strava / Dry Dressing
2. 25% of Gauze is wet
3. 50% of Gauze is wet
4. 100% of Gauze is wet within 24 hours but no need to change the dressing.

Vrana Oostha (Margin)
1. No margin
2. Smooth and sloping
3. Regular but inflamed
4. Rough, irregular and inflamed

Vrana Tala (Wound Floor Bed and Granulation)
1. Smooth Regular Floor and healthy granulation tissue more than 50% of wound surface
2. Smooth regular floor with absence of slough and 25 -50% of wound surface covered with granulation tissue.
3. Smooth irregular, less granulation tissue and presence of slough over 25 -50% of wound surface.
4. Rough floor with presence of slough more than 50% of wound surface.

**Tenderness:**
1. No Tenderness
2. Tenderness on Pressure
3. Tenderness on Touch
4. Unable to touch
**ASSESSMENT CRITERIA OBSERVATIONS TABLE:**

<table>
<thead>
<tr>
<th>Assessment criteria</th>
<th>Before treatment</th>
<th>12th day</th>
<th>24th day</th>
<th>36th day</th>
<th>45th day</th>
</tr>
</thead>
<tbody>
<tr>
<td>pain</td>
<td>Moderate</td>
<td>Moderate</td>
<td>Mild</td>
<td>Mild</td>
<td>Absent</td>
</tr>
<tr>
<td>Inflammation</td>
<td>Inflammation</td>
<td>Moderate</td>
<td>Mild</td>
<td>Mild</td>
<td>Absent</td>
</tr>
<tr>
<td>Temperature</td>
<td>Not raised</td>
<td>Not raised</td>
<td>Not raised</td>
<td>Not raised</td>
<td>Not raised</td>
</tr>
<tr>
<td>odour</td>
<td>Foul smell</td>
<td>Moderate foul smell</td>
<td>Mild foul smell</td>
<td>Foul smell absent</td>
<td>Foul smell absent</td>
</tr>
<tr>
<td>Colour</td>
<td>Reddish yellow</td>
<td>Reddish</td>
<td>Reddish pink</td>
<td>Pink</td>
<td>Pinkish, whitish along with normal pigmentation partially.</td>
</tr>
<tr>
<td>discharge</td>
<td>Purulant, More quantity</td>
<td>Purulant, Moderate quantity</td>
<td>Purulant, Moderate quantity</td>
<td>Seropurulant, Mild quantity</td>
<td>Absent (Dry gauge)</td>
</tr>
<tr>
<td>itching</td>
<td>Localized &amp; often</td>
<td>Moderate</td>
<td>Moderate</td>
<td>Mild</td>
<td>Mild</td>
</tr>
<tr>
<td>Floor of the wound</td>
<td>Slough, edematous &amp; inflamed granulation tissues, over 50% of surface covered</td>
<td>Slough, edematous &amp; inflamed, 30-40% surface covered</td>
<td>Slough absent, Healthy granulation tissues</td>
<td>Healthy granulation tissues</td>
<td>Healthy granulation tissues</td>
</tr>
</tbody>
</table>

Fig.1: non healing ulcer 0 day (Before treatment)  
Fig.2.: on 36th day  
Fig.3: on 45th day (After treatment)
Fig.1. (Before treatment) Right leg ulcer biopsy

Fig.2. (Before treatment) Hyperplastic and hyperkeratotic skin with inflamed granulation tissue. Acanthosis of epidermis. The dermis shows dense inflammatory infiltrates composed of lymphocytes, plasma cells, neutrophils. Proliferating capillaries also seen in dermis. No granuloma/Malignancy

Fig.3. After treatment. Showing healthy granulation tissues.

Result and Discussion:-

The clinical features of Chronic infected wound were improved after the first week and the wound was healed with healthy granulation tissues at the end of 6 weeks leaving only a minimal scar. Under 254 nm Rf value 0.68, Caffeic acid was detected. this is Phenolic compound & plays important role in wound healing. Beside this it also contains Bergenine. Bergenine is the c-glycoside of 4-o methyl gallic acid. It shows potent immunomodulatory effect. It exhibits anti-ulcerogenic, antifungal, anti-inflammatory & neuro-protective activity. The ointment or malhar prepared from *Ficus lacor* has acidic Ph which helps formation of healthy granulation tissue. According to Ayurveda the above mentioned properties of *Ficus lacor* helps to clear the wound and wound healing also.
CONCLUSION: -

On the basis of this case study, it can be concluded that ointment (Malhar) prepared from Ficus lacor was found to be very effective in the management of non healing ulcer. It possesses the high efficacy in removal of slough and wound healing with fine scaring without producing any adverse effect. Thus, it can be used as an alternative approach for management of non healing ulcer.

REFERENCE:

1 Vd. Datto Ballala Borakar, Sarth Susruta samhita, 2000, Su.su. 21/40 Page No 94.
3 Dr. Gangasahay Pandey Charaksamhita of Aghivesha-part ll.chap.25/ su. 84. Chukhmbha Sanskrit Samsthan, Varanasi.

Conflict of Interest: Non
Source of funding: Nil

Cite this article:
"Efficacy of Plaksha (Ficus lacor) Ointment in the Management of Non- Healing Ulcer W.R.T. Dustavrana."
P.B. Jondhale, S.A. Atram, B. A. Atram