

TREATMENT OF BURN WOUND BY *GHRUTA* (GHEE) AND *MADHU* (HONEY) - A CASE REPORT

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ABSTRACT

Burn wounds are of prime concern regarding post healing scar. Various treatments modalities are used for dressing of burn wounds keeping in mind good cosmetic outcome. Modern sciences describe various ointments for burn dressing but many of them have some disadvantages. Whereas Ayurveda has verity of wound healing agents. Out of which two natural preparations *Ghruta* and Honey are used in this case study. *Ghruta* being *Vranaropak* (wound healing) and *Kantivardhak* (Improving Luster) and honey being antibacterial, *Vranaropak* (wound healing) and *Lekhan* (Debridement), helps in burn wound healing with better outcome. Observations showed that faster wound healing and good epithelialization is possible with these remedy.

Key Words: Burn wound, Honey dressing, *Ghruta* Dressing, and Cosmetic dressing for burn.

INTRODUCTION

Very vast research has been done and being done on the burn wound management. Moto of these studies is to minimize time for healing and to achieve better post healing scar i.e good cosmetic effect. Burn wounds are one of the most concerned wound for its post healing nature. Burn wounds are commonest and critical wounds considering their output after healing. There are various schools of thought regarding line of treatment of burn wound, like closed dressing, open dressing, collagen dressing etc. Sushruta has also explained treatment of burn wound while describing *Agnikarma Adhyaya* while describing treatment of wound due to *Agantu* (External) injury. Sushruta has explained use of Honey and *Ghruta* for *Sandhan* purpose i.e approximation of wound margins of the

wound faster^[1]. As Honey is having wound cleansing property and *Ghruta* is having wound healing property they help in faster and good quality healing of the burn wound so that outcome after healing is also better. So taking this reference, preparation of ointment with combination of Honey and *Ghruta* was used for second degree burn and healing process was observed.

Case Report: A male patient of 43years age came in the causality with complaints of infected burn wound over left lower limb just above ankle joint on medial aspect. Patient was having pain, itching sensation, slight discharge at wound. History of Burn due to hot silencer of motor cycle, 3 days before. Patient had not received any treatment. He was managing the wound by dressing with savalon at home. Personal

History: Patient was not having history of any major illness/ DM/ Hypertension. On Examination there was 6 cm by 4 cm burn wound of second degree. Mild slough and eschar was present over wound. No purulent discharge seen from wound. Margins were yellowish. Tenderness and redness around wound was present (Signs of Cellulitis).

Treatment given: Eschar was removed and wound cleaned. Dressing with Honey and *Ghruta* was done daily once. Closed dressing was done. Thin layer of Honey and *Ghruta* was applied over the wound. Oral medication with Antibiotics (Cefixim 200 mg BD) and Analgesics and anti-inflammatory (Seratiopeptidase and Diclofenac Sodium) are continued for 5 days Wound was observed for its healing process under following criteria

- Quantity of Slough
- Edema around wound
- Discharge from wound
- Color of base of wound.

Observations: On second visit (2nd day after first dressing) wound was devoid of slough. No discharge through wound. Redness and tenderness which was present at first dressing was reduced significantly. Edema was minimal. On third dressing (4th day) the wound was bright red in color with good granulation tissue and signs of epithelialisation at margins. On fourth dressing (6th day) there were no any signs of infection. Healthy granulation tissue was present. Daily dressing was continued upto 10 days and epithialisation of wound was covered within 10 days. The color of epithialisation was recembling with surrounding and no signs of Keloid of bad scar formation were observed.

DISCUSSION

Burn wounds are of prime concern for their post recovery complications like keloid formation, pigmentation. So various treatment modalities are being tried for burn wound management. Recent trends in burn

dressing includes use of various topical ointments containing i) Silver Suphadiazine ii) Mefenide acetate iii) Polymixin B, Neomycin and Bactrician iv) Silver Nitrate v) Dakins's solution. Though all are good healing agents each drug have some disadvantages.

1. Silver Suphadiazine is widely used dressing ointment but it can develop transient Leukopenia

Following continued use of 3-5 days

2. Mefenide acetate is painful on application and it has carbonic anhydrase inhibitory Characteristics that can result in metabolic acidosis

3. Polymixine B, Neomycine, and bacitracin is painless and clear on application but it is costly

4. Silver Nitrate is hypotonic and continuous use can cause electrolyte leaching

5. Dakin's Solution has cytotoxic effect on the healing cell of patient's wound.^[2] The simplest method of treating a superficial wound is by exposure, after a few days a dry eschar forms which then separates as the wound epithelializes. But this is very painful situation and requires intensive amount of nursing support. Another method of managing these type of burn is to place a Vaseline impregnated gauze with or without an antiseptic such as Chlorhexidine, over the wound. The Vaseline Gauze is used to prevent the dry eschar, preventing it from cracking so easily.^[3] The traditional method of using Tulle grass (Jelonet) is adherent and can be difficult to remove once dried but provides a moist environment for healing. And another way is retention dressing, these dressing are oil based so application of any kind of oil (typically Olive oil) dissolves the adhesive and permits removal of the dressing without disturbing the healing burn wound.^[4] Considering healing of burn wounds some points to be considered are- prevention and control of infection, relief from itching and

prevention of formation of traumatic blister. Infection should be managed by combination of topical and systemic agents. Itching is caused by Histamines and various endopeptides. For prevention of itching, antihistamines, antiallergics, moisturizing creams, aloe vera all being tried. And to prevent traumatic blister formation, non-adherent dressing and regular moisturisation is required.^[5] While considering management of burn wound in Ayurveda Samhitas we find that Sushruta has described use of ointment prepared by *Sarpi (Ghruta)*, *Madhucchishta* (Wax) and other ingredients for *ropan* i.e proper healing of wound. Sushruta has also explained that for dry burn *Sneha Chikitsa* (Oily drugs) application should be considered.^[6] Considering *Ghruta*, Sushruta has explained *Ghruta* as *Kantivardhak* (i.e improving skin luster), it is *Rakshoghna* i.e. having anti-microbial activity. It is also *Madhur* in *vipak*, *vata* and *pitta nashak* in characteristics.^[7] Vagbhata has also described *Ghruta* as *Vrana Shodana* and *Ropan* meaning *Ghruta* has property of cleaning wound and healing of wound.^[8] Whereas Honey is also considered to be *Varnya* (Improving Luster of skin), *Lekhana* (Debridement), *Shodhan* (Purifying), and *Ropan* (Healing) property. Honey is *Kaphagna*, *Picchila* (Sticky), and *Madhur*. All these properties help in wound healing.^[9] Vagbhat has described Honey as *Vranashodhana*, *Sandhan* and *Ropana* i.e Honey is having wound cleaning, healing and construction property.^[10] According to Pharmacognocny of Honey, it is a aqueous solution of Glucose 35% Fructose 45% and Sucrose 2%. And other constituents of Honey are Maltose, Gum, traces of Succinic acid, acetic acid, dextrin, formic acid, enzymes and vitamins. Honey is antiseptic and applied to burn and wound.^[11] Honey dressing improves wound healing, make wound

sterile in lesser duration and have better outcome in terms of incidence of hypertrophic scars and post burn contractures when compared to Silver Sulphadiazene.^[12]

Probable mode of action: As discussed, burn wounds require four important conditions to be maintained - prevention of infection, retention of fluid, prevention of blister formation and prevention of dry eschar formation.

- *Ghruta* prevents fluid loss from burn wound and also lubricates surface of wound and prevents hard eschar formation
- Oily consistency of *Ghruta* helps adhesions of dressings with wound
- *Ghruta* is having *vranaropan* (Healing) and *Kantivardhan* (Improving luster) property so it helps in early healing with good pigmentation.
- Honey is having antibacterial activities so it prevents infection
- Honey because of its high viscosity, forms physical barrier and the presences of enzymes catalase gives Honey antioxidant properties.
- Honey is *Picchil* (Sticky) in consistency which helps in loss of fluid form wound surface
- *Lekhan* property of Honey helps in removing dead, necrosed tissue from burn wound and
- Fascinate formation of healthy granulation tissue.

CONCLUSION:

This case study reveals that burn wound dressing by Ointment prepared by *Ghruta* and Honey produces good and faster wound healing. Also it can help in minimizing post healing complications like keloid formation bad pigmentation and also it is cheap and easily available.

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Burn wound on first visit



Ghruta- Honey application on 4th day



Wound on 6th day



Wound on 8th day

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