

Healing Potential of Haridra-Madhu in fourth Degree Burn wound of Paraplegic Child: A Single Case Study

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Abstract

Burns is defined as a wound caused by exogenous agent leading to coagulative necrosis of the tissue. Most burns are due to heat from hot liquids, solids or fire. A fourth degree burn additionally involves injury to deeper tissues, such as muscle, tendons or bone. Management of burn wound by natural Madhu and Haridra as local application. A 5 years child female patient visited OPD with burn on both gluteal regions due to fall down on hot iron plate. On local examinations, the buttock seen redness, discharge, blackish slough was noted so diagnosed as fourth degree burn. In first week after treatment blackish discoloration was reduced completely. On second week healthy granulation was observed without any discharge. The wound healed completely within one month with minimal scar formation and normal skin coloration. Single case study reveals healing effect with Madhu and Haridra (*Curcuma longa L.*) in fourth degree burn wound.

Keywords: Ayurveda; Burn; *Curcuma longa*; Dagdha; Honey; Madhu; Vrana; Wound.

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Introduction

Burns are one of the most common household injuries, especially among children. The term "Burn" means more than the burning sensation associated with this injury. Burns are characterized by severe skin damage that causes the affected skin cells to die.¹ A fourth-degree burn additionally involves injury to deeper tissues, such as muscle, tendons, or bone.² The burn is often black and frequently leads to loss of the burned part.³ Burns are generally preventable and treatment depends on the severity degree of the burn. The most common complications of burns involve secondary infection that leads to septicemia. For full thickness burns, generally the skin will either be white, black, brown and charred in appearance. Often eschar (dry, black necrotic tissue) will form around the wound. Since nerve endings are destroyed along with the dermis, these wounds are usually painless. Majority of burns in children are scalds caused by accidents with kettles, pans, hot drinks and bath water.

According to Ayurveda Atidaghdha can be correlated with fourth degree burn.⁴ Honey having properties like Madhur and Kashaya rasa so It has Varana shodhan (wound cleaning) effect as well as tridoshar. Previous studies reported healing potential of Madhu in non-healing wounds.⁵⁻⁶ It has properties like Varnya, Shodhana, Ropana, Sukshmamganusari and Sandhana.⁷ Haridra (*Curcuma longa L.*) having a property like Katu-Tikta rasa, Laghu-Ruksha guna, Katu vipak and Ushna virya.⁸ As per Ayurveda it has Kaphavata shamak, Lekhana, Varnya and Varna Ropana (wound healing) activity. It is also used in skin disordered due to its anti-bacterial property. In Ayurveda 60 types of Upkarmas are described for the management of wounds.⁹ Among them here Vrana shodhana as honey and Varna Ropana as Haridra was used in combination for daily dressing of the burn wound.

Case History

A 5 years old child female patient was referred by Kaumarbhritya department for treatment of burn as patient was under treatment for paraplegia. Patient reported history of fall down on hot iron plate having complained of burn on gluteal region of both sides. On examination the wound was reddish; having black slough without any pain and it was diagnosed as fourth degree burn. In past history patient reported convulsions 5-6 episode/day in childhood. She had history of was surgery for meningomyelocele in the lumber region under general anaesthesia. So patient was admitted in Shalya ward for further investigation and daily dressing. On examination, blackish wounds on bilateral gluteal region along with surgical scar

marked also seen in lumbosacral area. The size of wound was 5.2 cm. x 4.8 cm. (Left gluteal) and 7.1 cm x 5 cm. (Right gluteal) with blackish surrounding area of wound and also the margins are elevated (Fig.1). The routine blood investigations were done which were normal except Hemoglobin-9.4%. The patient reported that both gluteal and lower leg didn't have sensation due to surgery but motor function of both legs was normal. So the patient didn't have pain even big burn wound.

Drug application

Madhu and Haridra powder was taken in equal quantity (Approx 10 gm each). Both are mixed well and applied on the wound in quantity sufficient (Fig. 6). Freshly prepared material was used for dressing daily and applied loose bandage..



Fig.1: On first day of consultation



Fig. 4: Healing status after 3rd week



Fig. 2: Healing status after 1st week



Fig-5: On 4th week complete healing of wound



Fig. 3: Healing status after 2nd week



Fig 6: Mixture of Haridra and honey

Results and Discussion

Daily cleaning of wound with normal saline and dressing with Haridra (Curcuma longa L.) and honey was done and observed for wound status, features of local findings. On the 1st day it was observed that size of 5.2 cm. x 4.8 cm. (Left side gluteal) and 7.1 cm x 5 cm. (Right side gluteal) region with blackish surrounding area of wound, the margins are elevated. (Fig. 1) The wound was assessed weekly and it was observed that in application of Madhu and Haridra on the 1st week of dressing, after rinsing with the normal saline. Wound slough was removed surgically, so erythema and swelling reduced and wound become clean after 7 days. (Fig. 2) The same dressing procedure was continued daily. Granulation tissue was observed in the wounds and wound edges begin to contract day by day. The size of the wound decreased followed by reduced appearance of blackish discoloration (Fig. 3). At the end of 3rd week epithelial tissue started to cover the wound area (Fig. 4). At the end of 4th week complete healing was observed, there was no open wound area, or any discharge. Healthy skin with minimal pigmentation was observed (Fig. 5).

Mode of action:

Honey had Varna shodhana and Suksma-marganusari property which helped to remove the slough.¹⁰ Lekhana property of honey and Haridra is also help to remove the slough, so wound become clean having shudha avashta of Vrana. The drug had Varnya property so surrounding skin became normal along with healing of wound. Honey is proved for their antibacterial activities that helped to control the infection at wound site.¹¹ Haridra (Curcuma longa L.) contains curcumin which have antibacterial help for Vrana Ropan (wound healing) and lekhan (scarping the slough) properties.¹²⁻¹³ In classic it is also mentioned that the combination of these drug is more effective in wound healing. The positive thing in this case is that though burn wound was deep having neuropathy (loss of sensation due to spine surgery for meningomyelocoele) wound healed completely with due course of time.

Conclusion

Study concluded that of Honey and Haridra possesses Shodhan, Ropan and Varnya properties and had potential to heal the burn wound.

Limitation of study

As this is single case so further study in more cases of burn wound with this simple, safe and cost-effective medicament is needed for its scientific validation.

Acknowledgement

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