



Case Study

TREATMENT OF SECOND-DEGREE SCALD BURN WITH THE APPLICATION OF
MADHUCHISTADI GHRITA

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ABSTRACT

Burn is one of the common conditions affected by individuals in day-to-day activity which needs extra attention to prevent ugly scars and many more complications. Ayurveda has a wide range of herbal formulations to manage such types of burn wounds. Among them, one is *Madhuchistadi Ghrita* which has burn wound healing properties by its *Vrana Ropana* drugs. A 45-year-old male patient suffered second-degree scald burn along with blisters and burning over the right hand for four days. The patient was successfully treated with a local application of *Madhuchistadi Ghrita* twice daily for 15 days. After seven days of treatment, the wound was 70% covered with epithelialization and at the end of 15 days, the wound was completely healed. During the follow-up period of 1 month, the skin was completely remodeled with the presence of skin appendages. This is a single case report with a positive outcome on the treatment of second-degree scald burns with the application of *Madhuchistadi Ghrita*.

INTRODUCTION

Acharya Sushruta described emergency treatment under the heading of *Atyayik Chikitsa* among which *Dagdha* (burn) is one of them. Since ancient times burns have been a common emergency condition with the potential for considerable morbidity and mortality. Burns are the fourth most common type of trauma worldwide, following traffic accidents, falls, and interpersonal violence. [1] According to WHO burns are a global public health problem, accounting for an estimated 1,80,000 deaths annually. [2] It is estimated that the annual incidence of burns in India is approximately 6-7 million per year. [3]

According to the involvement of skin layers burns can be classified into a variety of types and degrees. Among them, second-degree scald burns are the most common type which extends through the entire epidermis and part of the dermis. [4] Second-degree burn is also known as superficial partial thickness burn characterized by painful blisters that are typically managed with topical antimicrobial ointment, and different kinds of dressings. [5]

In Ayurveda, second-degree burns can be correlated with the *Durdagdha* (second-degree burn) given by Acharya Sushruta. [6] Various herbal formulations have also been advised for topical application in the management of *Dagdha* among them *Madhuchistadi Ghrita* advocated by Sushruta in the management of *Itaratha Dagdha*. [7]

In this report, we describe the positive treatment outcome of superficial second-degree scald burns with the application of *Madhuchistadi Ghrita* and the oral administration of *Manjisthadi Kwatha*.

Patient Information

A 45-year-old male presented to the outpatient department for the management of a burn on the right hand with complaints of burning pain and itching for four days. The patient had a history of scald burns due to hot tea. A patient consulted to district civil hospital and took treatment such as local application of silver sulfadiazine two times a day and an oral analgesic tab of paracetamol 500mg twice a day for four days. On physical examination, the general condition of the patient was fair, and on local examination, the patient presented with blisters and mottled skin over the ventral surface of the right forearm extended up to the dorsal aspect of the forearm and minor serous discharge from the wound. (Figures 1 and 2) All the parameters of laboratory investigations were within normal range. After a thorough examination of clinical

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findings patient was diagnosed with 1.5% TBSA (Total Body Surface Area) second-degree scald burn.

Therapeutic Intervention

On the first visit, a thorough cleaning of the burn wound was done with normal saline, and devitalized tissue was mechanically removed. After that *Madhuchistadi Ghrita* was applied over the wound (Figure 3). Daily cleaning with normal saline and application of *Madhuchistadi Ghrita* was done for 15 days twice a day.

Follow-Up and Outcome

After the application of the *Madhuchistadi Ghrita* burning sensation on the wound was significantly reduced by 2nd day onwards and

completely diminished on 3rd day. Serous discharge was completely reduced by 3rd day onwards from the wound site. The itching on the wound completely diminished by the 7th day. Wound healing was started from the second day onwards. After seven days of therapeutic intervention, 70% of the wound was covered with newly formed tissue, and the whole wound was covered with pink epithelialization tissue. (Figures 4 and 5) At the end of the 15th day wound was healed completely without any wound contracture. (Figures 6 and 7) On a follow-up period of 1-month, excellent recovery of skin pigmentation and skin appendages was observed over the wound site. (Table no. 1: Timeline)



Fig 1: First day (Ventral aspect)

Fig 2: First day (Dorsal aspect)

Fig 3: Application of Madhuchistadi Ghrita



Fig 4: After 7 days (Ventral aspect)

Fig 5: After 7 days (Dorsal aspect)

Fig 6 After treatment (Ventral aspect)

Fig 7: After Treatment (Dorsal aspect)

Table no. 1 Timeline

Date	Incidence / Intervention
11/05/2021	Burn over the right hand with hot tea
11/05/2021 to 14/05/2021	Took allopathic treatment Application of Silver sulfadiazine and tab paracetamol 500mg BD
15/05/2021	Visit Shalya Tantra OPD
15/05/2021 to 31/05/2021	Cleaning of burn wound with Normal saline and the local application of <i>Madhuchistadi Ghrita</i> twice a day

22/05/2021	Burning and itching completely diminished, wound contracted by 70%
31/05/2023	Wound completely healed
14/06/2023	Complete remodeling of wound with normal skin texture

DISCUSSION

According to the severity of the burn, treatment varies as first and second-degree burns are considered minor burns that cover less than 10% of the body area treated with local dressing by antimicrobial ointment e.g., silver sulfadiazine, neomycin, etc., and covered with light gauze or paraffin gauze with their limitation.^[8]

Ayurveda describes many herbal potent formulations for the management of *Dagdha* (burn). One among them is *Madhuchistadi Ghrita* which was mentioned in Sushruta Samhita for the management of *Itaratha Dagdha* (accidental burn injury). *Madhuchistadi Ghrita* contains *Madhuchista* (bees wax), *Yashtimadhu* (*Glycyrrhiza glabra* Linn.), *Lodhra* (*Symplocos racemosa* Roxb.), *Sarjarasa* (*Vateria indica* Linn.), *Manjistha* (*Rubia cordifolia* Linn), *Raktachandan* (*Pterocarpus santalinus* Linn), *Murva* (*Marsdenia tenacissima* Roxb), and *Go-Ghrita*. All these drugs have the properties of *Vrana Ropana* (wound healing) and *Dahahara* (relieve burning sensation) through their *Madhura*, *Tikta-Kashaya Rasa*, and *Shita Veerya*. All these drugs have antimicrobial properties as well as antioxidant properties which help in the progression of wound-healing phases.^[9]

Because of the astringent property of *Madhuchistadi Ghrita* discharge from the wound site was completely diminished in a short period. The base of *Madhuchistadi Ghrita* is *Go-ghrita* which has inherent antioxidant properties that help in fastening the wound healing and remodeling of the wound without contraction of the skin.^[10]

Application of *Madhuchistadi Ghrita* fastens the wound-healing process including giving immediate relief in burning sensation as well as better cosmesis than contemporary local medicaments.

CONCLUSION

This case demonstrates the successful outcome of the scald superficial partial thickness burn by application of *Madhuchistadi Ghrita* without any

untoward effects. As this is only a single case report needs further study on a larger population to validate and prove its effectiveness.

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