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BURN CARE IN AYURVEDA: A CLINICAL CASE STUDY

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ABSTRACT

Burn injuries continue to pose a significant global health challenge, contributing to considerable morbidity and mortality and necessitating prompt, multidisciplinary intervention. This case study explores the clinical management and outcomes of a burn patient treated using traditional principles.

A 22-year-old female presented with scald burns involving 24% of total body surface area (TBSA), comprising both partial and full-thickness injuries. The therapeutic regimen employed included the topical administration of Panchatikta Ghrita, *complemented by oral Ayurvedic formulations such as* Gandhaka Rasayana, Manjistadi Kashaya, *and* Panchatikta Ghrita *to promote tissue regeneration and prevent secondary infections.*

This case aims to underscore key strategies for effective burn management, particularly within resource-constrained healthcare settings, and to share clinical insights that may aid in optimizing outcomes while minimizing complications.

The integrative protocol facilitated significant wound healing, effective analgesia, and infection control. Complete epithelialization was observed within 50 days of initiating treatment, after which the patient successfully resumed her activities without residual discomfort or disability.

KEYWORDS: *Dagdhavrana, Second degree burn, Ayurvedic management.*

Abbreviation: TBSA – *Total Body Surface Area*

INTRODUCTION

Burn injuries represent a significant global health burden, contributing to approximately 180,000 deaths annually, as reported by the World Health Organization (WHO). Among thermal injuries, flame and scald burns constitute the majority of cases[1]. Management of severe burns often necessitates intensive care due to the risk of complications such as hypovolemic shock, infection, and multiorgan failure[2].

Second-degree burns, commonly encountered in domestic and occupational settings, are characterized by erythema, blistering, and severe pain[3]. Conventional medical protocols typically involve initial patient stabilization followed by administration of analgesics, systemic antibiotics, silver sulfadiazine, wound debridement, and regular dressings[4]. Despite these interventions, patients remain at risk for secondary infections, hypertrophic scarring, keloid formation, and contractures.

In Ayurvedic medicine, burn injuries are described under the term *Dagdhavrana*. Ayurveda, the ancient Indian medical system, offers a holistic alternative through remedies with documented antimicrobial, anti-inflammatory, and regenerative properties. The classical *Shashti Upakramas*[5] (sixty therapeutic procedures) outline a comprehensive approach to wound management.

This case study investigates the integration of Ayurvedic topical agents and oral formulations in the management of burn injuries, with a particular emphasis on promoting wound healing, preventing infections, enhancing patient comfort, and minimizing long-term scarring and deformities.

Case Presentation

Patient History

A 22-Year-old female came to Shalyatantra OPD of Shri Siddharooda Chariable Hospital Bidar attached to N.K. Jabashetty Ayurvedic Medical College and PG Centre Bidar. As she sustained scald burns from boiling milk, affecting 24% TBSA.

Clinical Examination

Burn Assessment

Vitals: BP- 90/60mmHg,
PR- 60bpm

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RR- 16/min
SpO2- 97%on RA

Depth: Mixed partial thickness and full thickness burn(buttock).
Distribution: posterior trunk 18%, anterior trunk 2%, right upper limb 1%, left lower limb 3%
Area of burn: Rule of nine[6]: Estimated 24% TBSA
Signs of infection: not present
Pain score: 7/10 (visual analog scale)

Management Protocol

1) Initial Management:

Fluid Resuscitation: Ringers lactate by Parkland formula (4ml x % TBSA x weight in kg)
Analgesic: Inj Divon Aq, IM SOS

2) Local Wound Care:

Cleansing: Vrana Prakshalana by Panchavalkala kashaya.
Topical application: Shatadhouta Ghrita + Nimba mashi daily for 7 days.
Then, Panchatikta Ghrita daily
Dressing: Sterile cotton gauze.

3) Oral Medications

Manjistadi kashaya 15 ml BD with Lukewarm water.
Tab Gandaka Rasayana- 2 tablets BD
Tab Kaishor guggulu – 2 tablets BD
Panchatikta Ghrita 1 tsf BD with lukewarm water
In addition, from day12 to day 41 following are added (as Hb is 9.6gm/dl)
Lohasava 10 ml BD with lukewarm water
Shatavarikalpa 1 tsf HS with lukewarm water

4) Supportive care

Hydration with plenty of water.
Avoidance of katu, amla, abhishyandi ahara.
Day 30 onwards patient is asked to tap the area of healing in circular fashion outward to inward (increases circulation at the area and helps in early healing).

Progress and Outcome

Date	Day	Objective Observations	Subjective observations	
15/4/24	D1	Fluid filled Bullae seen at back, chest with full thickness wound at left buttock, LLL, Partial thickness wound at RUL and chest.	Severe pain (burning and throbbing) Difficulty in moving UL+ LL Discomfort	
17/4/24	D3	Rupture of bullaes, serous fluid discharge seen, superficial layer is debrided, colour is reddish pink. Vitals stable.	Pain++	
21/4/24	D7	Signs of healing seen all over with slight serous discharge from beneath the applied mashi + ghrita at the wound of the buttock, vitals stable.	Pain during movement of right upper limb	

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25/4/24	D11	Signs of healing seen over all the areas.no exudate, colour is pink.	Pain+ CBC: Hb – 9.6gm/dl	
9/5/24	D25	Slough at left buttock and LLL, with serosanguinous fluid discharge from there. Rest areas show signs of healing.	Severe pain Temperature: 99.6F	
14/5/24	D30	Granulation tissue seen with slight slough at left buttock, LLL, rest area looks pinkish with no exudate.	Pain ++	

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20/5/24	D36	Healthy granulation tissue seen at left buttock, LLL with good healing over other areas.	Pain+	
28/5/24	D44	Healthy granulation with wound size reduced and wound healed at upper back, RUL and LLL.		
4/6/24	D51	Wound healed with colour same as that of skin, with no scar all over and minimal scar at left buttock, LLL with wound contracture at chest.		

Outcome

The patient was hospitalized for a duration of seven days, during which the outlined treatment protocol was initiated. Upon discharge, she was advised to continue the prescribed oral medications and report to the hospital daily for *Vranadhavana* (wound cleansing) and dressing. While active and passive movements of the upper limbs were

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encouraged early in the course of rehabilitation, the patient initially found them difficult due to movement-associated pain.

By day 50 of the treatment, complete wound healing was achieved, with only a mild contracture observed in the right axillary region. At the end of the healing period, the patient was able to resume her routine daily activities without pain or functional limitation.

DISCUSSION

Burn wound management presents multifaceted challenges due to the significant pain, risk of infection, and long-term functional impairments it can cause. These wounds require meticulous care at all stages to prevent complications such as secondary infections, hypertrophic scarring, keloid formation, and contractures.

In this case, the patient was managed according to Ayurvedic principles corresponding to *Plusta* and *Durdagdha* burn[7] classifications. Emphasis was placed on both internal and external therapies, drawing upon formulations known for their *Pitta*- and *Vata*-pacifying, antimicrobial, and regenerative properties.

During the initial phase, *Shatadhouta Ghrita* and *Nimba Mashi* were applied locally for seven days. These formulations possess potent *Pitta-shamaka*, antimicrobial, cooling, and wound-healing actions. Subsequently, *Panchatikta Ghrita*[8] was selected for topical use due to its efficacy in *Varna Shodhana* (cleansing) and *Varna Ropana* (tissue regeneration), as well as its ability to lubricate the wound surface, prevent eschar formation, and minimize fluid loss.

Daily *Prakshalana* (wound lavage) with *Panchavalkala Kashaya*[9] was conducted. This herbal decoction offers anti-inflammatory, *Pittahara*, *Varna Shodhana*, and *Ropana* properties, supporting both detoxification and tissue repair.

Oral medications included:

- **Gandhaka Rasayana**: Exhibits anti-inflammatory, antimicrobial, and tissue-regenerating effects.
- **Manjishtadi Kashaya**: Known for its *Twachya* (skin-supportive) and *Raktaprasadaka* (blood-purifying) properties[10], promoting healing while minimizing scar formation, having anti inflammatory and antibacterial property.
- **Kaishora Guggulu**: Acts as a *Raktashodhaka* (blood purifier), *Raktaprasadaka*, and has analgesic, anti inflammatory activity, useful in vranas [11].

To mitigate the risk of nosocomial infections, prolonged hospitalization was avoided. Instead, daily outpatient visits were arranged for dressing and monitoring. Early mobilization of the affected limb was encouraged to prevent contractures[12], and gentle tapping over the healing area was advised to promote organized collagen deposition and reduce the risk of keloid formation.

CONCLUSION

Burn wound management remains a complex clinical challenge due to the high risk of secondary infections and potential for late-stage complications such as scarring, contractures, and pigmentary changes. This case demonstrates that an Ayurvedic integrative approach, when applied appropriately, can effectively facilitate wound healing, control infection, and minimize long-term sequelae.

Complete wound closure was achieved within 50 days, with satisfactory functional recovery and no major complications. Although limited to a single patient, this case highlights the potential of traditional medicine protocols in burn care, particularly in resource-limited settings. Further clinical studies with larger cohorts are warranted to substantiate these findings and establish standardized guidelines for integrative burn management.

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