

## **AYURVEDIC MANAGEMENT OF BURN INJURY – A CASE STUDY**

Dr Avadhut Suresh Aiya

Associate Professor, Department of Panchakarma, Gomantak Ayurveda Mahavidyalaya and  
Research Centre, Vajem, Shiroda, Goa-India

### **ABSTRACT**

Burn injuries, are classified based on depth and percentage of body involved. This case study explores successful Ayurvedic treatment of a 3 year old female child who suffered burns from accidental fall of hot water on body. The aim of this study is to evaluate the efficacy of Ayurvedic treatment in managing burns, presenting detailed clinical assessment, treatment and outcome. This patient presented with blister formation, pain and burning sensation over right shoulder, ear and neck. Intervention used was *Triphala Guggulu* internally, *Triphala Kashaya* for *parishek* and *Shatadhauta ghruta* for local application over affected area. Clinical examination including *Ashtavidha Pareeksha* and *Dashavidha Pareeksha* was done. Treatment was given for 14 days with significant improvement in pain and burning on 10<sup>th</sup> day and complete wound healing on 14<sup>th</sup> day. This study underscores the efficacy of Ayurvedic intervention in managing burn injuries highlighting its potential to minimize complications and promote faster healing with minimal pigmentation. Though this case demonstrates promising outcomes, randomized controlled trials are required to validate the effectiveness of Ayurvedic medicine in burn management.

**KEYWORDS:** Burn injury, Wound healing, Sushruta Samhita, *Triphala Guggulu*, Ayurvedic intervention.

### **INTRODUCTION**

A burn is a wound in which there is coagulation necrosis of tissue. There are different types of burns<sup>1</sup>. Ordinary burns are usually caused by dry heat with fire, open flame, hot metal, bomb etc. Scalds are caused by moist heat eg hot liquid and steam. Electric burns are caused by high voltage electric current. Chemical burns are caused by strong acid or base. Radiation burns are caused by X-rays or radium. Cold burns are caused by exposure to cold<sup>1</sup>. Burns are classified into three grades- First degree- There is redness of skin with slight oedema of the epidermis. Second degree- The entire thickness of the epidermis is destroyed. Blisters or Vesicles are formed

between the separating dermis and epidermis. In the third degree burn there is complete destruction of the epidermis and dermis with irreversible destruction of dermal appendages and epithelial elements including sensory nerves<sup>2</sup>. Another classification includes two degrees Partial thickness and Full thickness. Partial thickness in which superficial layer of skin eg whole of epidermis and sometimes the superficial part of dermis becomes destroyed. Full thickness burns in which whole thickness of the skin including the epidermis and total depth of dermis is lost. In Ayurvedic text Sushruta samhita description about *dagdha vrana* is available

in “Agnikarma Vidhi Adhyaya “in Sutrasthana. Sushruta explains about clinical features, types and treatment protocol for individual type of Burns<sup>3</sup>. The present case study is successful Ayurvedic management of a case of Burn. A 3-year-old Female patient with pain and burning sensation, blister formation over right shoulder, ear and Neck after accidental fall of hot water successfully treated with Ayurvedic intervention without complications and with minimum pigmentation of the affected area.

### CASE HISTORY

A 3 year-old female baby was brought to me after accidental fall of boiling water over her Right shoulder joint, Right upper part of pinna and Right side of her neck. She was having Burning sensation and pain over the region along with 3 bluish blisters the biggest one was 2x1 cms and smallest was 0.5x0.5 cms. She was alert without loss of consciousness but had significant thermal injury. Following preliminary treatment with cold water, Burnol was applied locally by the maid and since the pain and discomfort was intolerable the parents brought the child to the hospital. The excision debriment of wound was done followed by open wound dressing with *shatadhauta ghruta* for a period of 14days. At the end of 14 days the wound was healed with minimal scarring and little pigmentation.

**Table 1: Ashtavidha Pareeksha**

<i>Nadi-80/min</i> <i>KaphaVata</i> <i>MruDu,Usna</i>	<i>Shabda-Spashta</i>
<i>Mutra-5-6 times</i> <i>in a Day, Normal</i> <i>colour,odour</i>	<i>Sparsha-</i> <i>Samashitoshna</i>
<i>Mala-1-2times a</i> <i>day,Nirama,Form</i> <i>ed</i>	<i>Druk-Prakruta</i>

<i>Jivha-Upalipita</i>	<i>Aakruti-</i> <i>Madhyama</i>
------------------------	------------------------------------

### General examination

Pulse Rate: 80/mim

Respiratory rate: 18/min

Height: 125 cm

Weight: 14kg

Temperature: Afebrile, 98.40 F

Pallor: Absent

**Table 2: Dashavidha Pariksha.**

<i>Prakruti</i>	<i>Vatapittaja</i>
<i>Vikruti</i>	Wound and Blister formation over Right Shoulder and Right side of neck Blister formation over right pinna Pain and burning sensation
<i>Sara</i>	<i>Madhyama</i>
<i>Samhanana</i>	<i>Madhyama</i>
<i>Satva</i>	<i>Alpa</i>
<i>Satmya</i>	<i>Madhura Rasa</i>
<i>Pramana</i>	<i>Madhyama</i>
<i>Aahara Shakti</i>	<i>Madhyama</i>
<i>Vyayama Shakti</i>	<i>Madhyama</i>
<i>Vaya</i>	3years( <i>Bala</i> )

### Examination of systems

RS: Clear, NAD

CVS: S1 S2 Normal, No murmur, No any abnormality

CNS: Conscious, Oriented NAD

**Local Examination-** On examination the patient had ulcers and Blisters over shoulder. Serous secretions were observed oozing from the wound. Skin was tender. Dead tissue was observed over the wound.

On palpation:

Tenderness –Present over the ulcers

### Table 5: Treatment protocol

Taking into consideration history and examining the patient, following treatment

was administered.

Date	Treatment	Dose	Frequency	Duration
15/5/23 to 28/5/23	Local Application of <i>Shatadhauta Ghruta</i> <sup>17</sup> 3 times daily	Quantity Sufficient	Twice Daily	14 days
15/5/23 to 28/5/23	<i>Parisheka</i> with <i>Triphala</i> <sup>15</sup> <i>Kashaya</i>	500ml	Twice daily	14 days
15/5/23 to 28/5/23	<i>Triphala Guggulu</i> <sup>16</sup>	75mg	Twice daily	14 days

## RESULTS

The medicine, local application over the burn area including *parisheka* was advised for a period of 14 days. Pain and itching subsided by 10<sup>th</sup> day of treatment. There was only serous discharge without any pus or smell from the wound. Wound healing was complete at the end of 14 days treatment with some hypopigmentation.

## DISCUSSION

Burns are classified based on their depth and percentage of body involvement. There are different rules which are used to determine the burn injury. Ayurvedic texts like Sushruta Samhita provide insights into the classification and management of burns. The management involves a combination of internal medications and external applications tailored to the patient's condition. Ayurvedic medicines with *Sheeta* and *Ushna* properties are used based on the

severity of the burn. After the treatment pain and burning sensation disappeared on 10<sup>th</sup> day and wound healed completely on 14<sup>th</sup> day of treatment. In commentary of Dalhan on Sushruta Samhita there is reference about different types of accidental burns during *agnikarma* which are classified into *Snigdha* (wet) and *Rooksha*(dry)<sup>4</sup>. Description about Burn is available in *Agnikarma vidhiadhyaya* of Sushruta Samhita. Charaka samhita has given explanation about *Agnidagdha vrana* while describing *Agantuja vrana*.<sup>5</sup>

Triphala Guggulu, Triphala and Shatadhauta ghruta are all effective in wound healing. Triphala is tridoshshamaka and Rasayana, Guggulu is having Vedanashamak properties, it is Vata Pittashamaka, Shatadhauta ghruta is Vata pittashamak and effective remedy for relieving burning sensation and helps in wound healing and that is why showed excellent results in this case.

## Assessment of Burn<sup>11,12</sup>

The Assessment of burn was done using Palmar method.

**Palmar method:** Assessment of the extent of burn is done by using patients own hand. The entire palm of person who is burned is considered as 0.8% in adults and 1% in children. Acharya Sushruta in Sushruta Sutrasthana<sup>12/22</sup> indicates the use of *usna*(warm) and *sheeta*(cold) medicines for *Durdagdha* vrana. Dalhan says that if it is deep burn then internal medication having Sheeta guna should be used and if it is superficial then medicines having *Usna Guna* should be used. External application of *Ghruta*, *lepa* and *Parisheka* is told. *Atidagda* Chikitsa<sup>14</sup> as per Acharya Sushruta in *Atidagda* the management includes surgical removal of dead tissue followed by treatment with medicines and local application.

## CONCLUSION

This Case illustrates successful management of burn injury in a 3 year old female patient with Ayurvedic intervention without complications. Ayurvedic management as in this case underscores the effectiveness of traditional healing practices which can minimize burn complications with minimum pigmentation. While this case demonstrates promising outcome, randomized controlled clinical trials are required to validate the effectiveness of Ayurvedic medicines in burn injuries.

## REFERENCE

1. Dr Somen Das, A concise textbook of Surgery, Calcutta: 3<sup>rd</sup> edition, 2001, Dr S. Das :Calcutta.p.50
2. Dr Somen Das, A concise textbook of Surgery, Calcutta:3<sup>rd</sup> edition, 2001, Dr S. Das :Calcutta.p.51
3. Sushruta, Susruta Samhita, English translation by Srikantamurthy. 1st ed. Sutrasthana, Ch- 12. Varanasi: Chaukambha visvabharati; 2018. Vol-1.p.71
4. Priya Vrata Sharma, Sushruta Samhita with English translation of text and Dalhan's commentary along with critical notes, Volume I (Chaukhamba Visvabharati, Varanasi);

Reprint 2013; Sutrasthana 12/15; p.128

5. Pt. Kashinath Shastri; Dr Gorakha Nath Chaturvedi; Charaka Samhita of Agnivesha Revised by Charak and Dridhabala with introduction by Vaidya Samrath Sri Satya Narayan Sa stri Padmabhushana with elaborate Vidyotini Hindi Commentary; Part 2; Reprint 2009; Bharati Academy, Varanasi; Chikitsasthana 25/78; p.698.
6. Shpichka A., Butnaru D., Bezrukov E.A., Sukhanov R.B., Atala A., Burdukovskii V., Zhang Y., Timashev P. Skin Tissue Regeneration for Burn Injury. Stem Cell Res. Ther. 2019;10:94. doi: 10.1186/s13287-019-1203-3. [PMC free article] [PubMed] [CrossRef] [Google Scholar]
7. Deitch E.A., Wheelahan T.M., Rose M.P., Clothier J., Cotter J. Hypertrophic Burn Scars: Analysis of Variables. J. Trauma. 1983;23:895–898. doi: 10.1097/00005373-198310000-00009. [PubMed] [CrossRef] [Google Scholar]
8. Tolles J. Emergency department management of patients with thermal burns. Emerg Med Pract. 2018 Feb;20(2):1-24. [PubMed]
9. Evers LH, Bhavsar D, Mailänder P. The biology of burn injury. Exp Dermatol. 2010 Sep;19(9):777-83. [PubMed]
10. Sriram Bhat M. SRB's Manual of Surgery. Burns: chapter 1[i]. 4<sup>th</sup> ed. New Delhi: Jaypee Brothers Medical Publishers; 2013. p. 134.
11. Sriram Bhat M. SRB's Manual of Surgery. Burns: chapter 1[i]. 4<sup>th</sup> ed. New Delhi: Jaypee Brothers Medical Publishers; 2013. p. 137.
12. F. Charles et al, Schwartz's principles of surgery, 8th Ed, Ch-8. McGraw hill's Access Medicine.p.225
13. Sushruta, Susruta Samhita, English translation by Srikantamurthy. 1st ed. Sutrasthana, Ch- 12. Varanasi: Chaukambha visvabharati; 2018. Vol-1.p.75
14. Susruta, Susruta Samhita, English

translation by Srikantamurthy. 1<sup>st</sup> ed. Sutrasthana, Ch-12. Varanasi: Chaukambha vishvabharati; 2018. Vol-1.p.75

15. Vd Shreelakshmipati Shastri, Bhashagratna Shreebramhashankar Shastri, Yogaratnakara with Vidyotiniteeka, Varanasi, Chaukhambha Sanskrita Samsthana ;7<sup>th</sup> edition 2002.234p.

16. Shri Chakrapanidutta with Vaidyaprabha hindi commentary, Dr Indradeva Tripathi, Prof Ramanath Dwiwedi, Chakradutta, Varanasi; Chaukhambha Sanskrit Sausthan; 1st edition, 1992, 263p.

17. Reddy Ramachandra; Bhaishajya Kalpana Vignana, 3<sup>rd</sup> Edition, Chaukhambha Sanskrit Samsthan, Varanasi, 2004:470.

### **CORRESPONDING AUTHOR**

Dr Avadhut Suresh Aiya

Associate Professor, Department of Panchakarma, Gomantak Ayurveda Mahavidyalaya and Research Centre, Vajem, Shiroda, Goa-India

E-mail: avadhutaiya3@gmail.com

Source of support: Nil

Conflict of interest: None Declared

### **Cite this article as**

Dr Avadhut Suresh Aiya: Ayurvedic Management of Burn injury – A Case Study; IX(3): 2455-2459

**Figure 1:** Showing pictures of burn wound Day 1



**Figure 2:** Showing pictures of burn wound Day 14

