

## AN AYURVEDIC APPROACH FOR THE MANAGEMENT OF *DAGDHA VRANA* (SECOND DEGREE BURNS) WITH *VIKESHIKA BANDHANA* – A CASE STUDY

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### ABSTRACT

Management of burn injury is a challenging task as it can lead to considerable amount of agony and disability for the victims. An estimated annual burn incidence in India is 6-7 million. Ayurvedic medicines got much desired boost for current & emerging challenges, it is crucial that Ayurvedic medicines are beneficial, must play their respective roles in promoting health & preventing or treating diseases. *Sushruta* pioneer of Indian surgery explained *Dagdha Vrana* (burn) and its management in 12<sup>th</sup> *Adhyaya* of *Sutrasthana*. As the patients of *Dagdha* (Burn) are increasing in society due to today's stressful & busy lifestyle. The present study entitled "A Case Study of *Vikeshika* for Local Application in the Management of Burn." Treatments prescribed in modern medicine like chlorhexidine acetate as bactigauze had proved their definite efficacy in the Burn management, but they have some limitations like it can't avoid eschar, hypertrophic scar, post burn contracture which harms as a cosmetically. So, to overcome these deficiencies we can apply *Vikeshika* as local application in the 1st & 2nd degree burn. The clinical assessment was done based on grading criteria with specific symptomology of *Dagda Vrana* like *Vedana* (pain), *Srava* (secretion), *Vrana Varna* (colour), *Gandha* (smell), eschar, discoloration, hypertrophic scar, and contracture. According to observations and results, a conclusion has been reached.

**Keywords:** Burn, Dagdavrana, Vikeshika Bandhana, contact layer dressing

## INTRODUCTION

India, being a developing country with no organized burn care facilities nor a proper safety awareness in the public, has an estimated annual burn incidence of 6-7 million, based on largest group of injuries after road accidents<sup>[1]</sup>. An estimated 300000 deaths are caused by burns every year. Burns are among the leading causes of disability adjusted life years (DALY) lost in the underdeveloped and developed countries. Globally there are 10 million DALY lost every year<sup>[2]</sup>.

A Burn is a wound in which there is a coagulative necrosis of the tissue. It is caused due to excessive exposure to thermal, chemical, electrical or radioactive agents. It is classified into three stages depending on percentage of burn like mild, moderate and major or severe.<sup>(3)</sup> Burn wound healing is a complex process including inflammation, granulation, and remodelling of the tissue and depending on the degree of burn or the thickness of skin involved, the healing period may vary from 1 to 3 weeks.<sup>(4)</sup> Acharya Sushruta has classified *Dagdhā Vrana* (~traumatic burn) depending on the depth and severity of the burn, among which *Durdagdhā*<sup>[5]</sup> has similar presentations to that of second-degree burns wherein, the treatment is more emphasized over *Sheetala Chikitsa* (~cooling therapies).<sup>(6)</sup> Acharya Sushruta also mentions *Bandha* for healing purpose<sup>(7)</sup> in different forms like *Vikeshika*, *Kavalika*, *Plota*, *Pichu*.<sup>(8)</sup> Among these *Vikeshika* is the cloth which contains *Tila Kalka Madhu* and *Ghrīta*.<sup>(9)</sup> The properties of *Vikeshika Aushadha* should not be too wet too dry or should not be placed unevenly and if done so their consequences would be excessive moistness in the wound bed, making the wound edges apart, disrupting the wound margins respectively.<sup>(10)</sup> *Jatyadi Gritha Phala Shruti* says it is a *Sukshma Vedana Marmashritasraavi Gambira Rujayukta Vrana* having *Gati* will attain *Shuddhata* and it also does *Ropana*

### Case Details

The following is a case report of a patient aged 10 years, who was presented with the following details.

**Chief Complaints-** burns over anterior abdomen., bilateral flanks, anterior and medial aspect of bilateral thighs for 20 days associated with pain and burning sensation.

### History of present illness-

The patient was apparently normal before 20 days from the day of admission and developed a burn wound over trunk and buttock region by accidental fire accident (dress got fire in kitchen), water is used to control the fire. Immediately taken to local govt hospital took first aid (details of treatment not found) from there patient is referred to higher center for further management their Patient is treated for 20 days in burn ward (details of treatment not found) than visited Shalya tantra OPD of SDM College of Ayurveda and Hospital, Hassan and admitted for further management with above mentioned complaints.

### History of past illness

No H/O DM, HTN or any other medical / surgical illness in the past

### Personal History

- Diet : mixed
- Appetite : Regular
- Bowel : Once a day, normal
- Micturition : 4-5 times
- Sleep : Disturbed

### Examination of the patient

#### General examination

- GC : Fair
- Pallor : Absent
- Icterus : Absent
- Lymphadenopathy : Absent
- Cyanosis : Absent
- Clubbing : Absent
- Edema : Absent

#### Vitals

- Pulse : 80 bpm, Regular
- BP : 130/80 mm of Hg
- Temperature : Afebrile, 97.4°F
- Respiratory rate : 18/min

**Systemic examination**

- CVS : S1S2 heard.
- CNS : Intact, Conscious, oriented to time, place and person.
- P/A : Soft, non-tender, No Organomegaly
- RS : Bilateral equal air entry, Normal vesicular breath sounds, no added sounds present

**Wound Examination-**

- Location of burn – anterior abdomen, antero-medial aspect of B/L thighs, small patch of burns in B/L gluteal region
- Degree of burn – second degree
- Percentage of burns – 34% of total body surface according to pediatric burn guidelines.

**Investigations**

- Hb : 9.4%
- TC : 10,300 cells/cmm
- ESR : 46 mm/hr
- RBS : 80.6 mg/dl
- Sr. Creatinine : 0.7 mg/dl
- Blood urea : 4.0 mg/dl
- Sodium : 142 mmol/l
- Potassium : 5.1 mmol/l
- Chloride : 101.6 mmol/l

**Final Diagnosis** : *Dagdhavrana* -second degree burns 34 %

**Procedure**

Local approach

*Pancha Valkala Kwatha Prakshalana* followed by wound cleaning with normal saline and *Jatyadi Ghrita Vikeshika Bandhana*.

**2. Virechana**

**METHODOLOGY**

**Preparation of Vikeshika**

- Under aseptic measures
- *Jatyadi Gritha* is evenly impregnated over lenowave fabric.
- Packing done using butter paper and aluminium foil and aluminium cover.
- Ultraviolet sterilization done.

**Patient approach**

- Written consent was taken.
- The patient was made to lie down in a supine position.
- *Pancha Valkala Kwatha Prakshalana*
- Wound cleaned with normal saline.
- Sterile *Jatyadi Gritha Vikeshika* is applied over the wound and removed after 24 hours.
- The same procedure is repeated twice a day and continued for 15 days.
- After 15 days wound cleaning with normal saline followed by *Ropana Gritha* external application
- *Snehapana* with *Panchatikta Ghrita* in *Arohana Matra* for 4 days (until *Sneha Siddhi Lakshanas* are achieved)
- *Virechana* with *Avipattikara Choorna* with *Madhu* and *Drakshadi Kashaya* as *Anupana* was given and *Samyak Virechana Lakshanas* are seen with total number of *Vegas* 18.

**Images**







## RESULT

- Slough is reduced completely in 10 days.
- Re-epithelialization of the wound was seen.
- 80 % reduction in Burning sensation and pain.
- No discomfort during dressing change
- Normal pigmentation of the healed skin seen in 30 % of burn area

## DISCUSSION

- Ayurveda literature suggests that *Vikeshika* should not be *Ati Snigdha*, *Ati Rooksha*, and *Vishama*. These quality standards mentioned by Acharya Sushruta are very near to those of an ideal contact layer dressing.
- As per the analysis, *Jatyadi Vikeshika* is pathogen-free. It has been proven Ghrita plays an important role in wound healing as it helps to control infection and increase anti-microbial activity, oxygen release, angiogenesis, protease activity, and bacterial toxicity<sup>[11]</sup>.
- There are many formulations which are mentioned in our classics which are not in practice to date. Studies have shown the anti-microbial activity and the effectiveness in second-degree burn wound of bees wax as well.
- *Vikeshika* has helped in maintaining uniformity in drug application and its sterility has lowered the risk of contamination.
- The dressings were changed once in 12 h, keeping in mind about the sensitive nature of burn wounds and to provide wound healing.

- As per literature, it takes about 2to3 weeks' time for a second-degree burn to heal and is susceptible for secondary infections as well. But in the present study, the wounds were found to heal within 15 days suggesting that, along with the qualities of an ideal contact layer dressing, the formulation has also played a major role by subsiding local *Shotha* by removal of local *Dhatu Dushti*, followed by initiation of *Ropana* process, i.e., contraction and covering of wound by epithelial layers.

## CONCLUSION

Use of *Jatyadi Ghrita Vikeshika* and *Virechana* shown good results in early epithelization, preventing contracture, reducing scar mark, and fast healing. also found more effective in reducing itching, swelling of the surrounding area, foul smell, discharge. Further Studies on different types of wounds and ulcers with this drug and various other drugs in similar form is the need on the hour.

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