



## A RANDOMIZED CLINICAL STUDY TO EVALUATE THE HEALING EFFECT OF YASHADHA BHASMA WITH LODRA AVACHOORNANA IN THE MANAGEMENT OF SHUDHA VRANA

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### ABSTRACT

The wound healing process is complex, and it is susceptible to interruption or failure leading to the formation of a non-healing ulcer. Factors that contribute to chronic wounds are diabetes, infection, and metabolic deficiencies in old age. Wound care promotes wound healing and protection from re-injury or infection. Active promotion of quick healing which adheres to closes the wound known as *Ropana*, which was extensively practiced and described by *Acharya Sushruta*. To promote the healing of *Shudha Vrana* into *Roohyamana Avastha*, *Ropana Karma* is done. *Acharya Sushruta* gives special importance to *Vrana Chikitsa* having 7 modalities (local *Shodhana* and *Ropana*), among which *Avachoorana* is one such formulation. In classics, *Lodra Choorna* and *Yashadha Bhasma* are indicated in *Vrana Ropana*. From this study, *Yashadha Bhasma Avachoorana* has been found very effective in the wound healing process without any sorts of complications and toxic effects.

**Keywords:** *Shudha Vrana, Yashadha Bhasma, Lodra Choorna, Avachoorana*

## INTRODUCTION

In Ayurveda, particularly *Sushruta* has mentioned various types of wounds and their management which is of prime importance in any surgical practice/procedure. *Sushruta* has defined *Vrana* as a phenomenon that consumes the tissue and on healing leaves '*Vrana Vastu*' i.e, permanent scar tissue. This definition is not limited to cutaneous lesions only but destructive lesions occurring in any tissue of the body have also been considered as *Vrana* <sup>[1]</sup>. After the injury, healing is a natural phenomenon and continues in a sequential manner till the formation of a healthy scar. Certain general factor as nutritional deficiency, hormonal imbalance, and various systemic diseases like anaemia, diabetes, malnutrition, etc and certain local factors like a foreign body, infection, hematoma, etc either alone or in combination influence the normal pattern of wound healing. Hence, in the present concept, all efforts are diverted to keep wounds clean during various stages of healing. As *Vrana Chikitsa*, he has mentioned 60 *Upakramas* <sup>[2]</sup>, different options given for treating *Vrana* according to condition. The *Vrana Shodana* and *Ropana* have been highlighted in the *Shasti Upakramas* which include 7 *Upakramas* which are therapeutically grouped under the headings like *Kashaya*, *Varti*, *Kalka*, *Sarpi*, *Taila*, *Rasakriya* and *Avachoomana*.<sup>[3]</sup> *Avachoomana* is one such formulation that is indicated in *Vrana Shodhana* and *Ropana*. The present study entitled "To evaluate the healing effect of *Yashadha Bhasma* and *Lodra Avachoomana*" considers the facts like an easy method of drug collection, preparation, and cost-effectiveness of the treatment

### AIMS AND OBJECTIVES OF THE STUDY

1. To evaluate the *Ropana* effect of *Yashadha Bhasma Avachoomana* in *Shudha Vrana*.
2. To evaluate the *Ropana* effect of *Lodra Avachoomana* in *Shudha Vrana*.

### STUDY DESIGN

Table 1:

GROUPS	Mode of treatment	Duration
GROUP A	<i>Yashadha Bhasma Avachoomana</i>	28 days
GROUP B	<i>Lodra Avachoomana</i>	28 days

3. To compare the *Ropana* effect of *Yashadha Bhasma* and *Lodra Avachoomana* in *Shudha Vrana*.

### MATERIALS AND METHODS

#### METHODOLOGY

**Source of Data:** Patients diagnosed with *Shudda Vrana* were selected from IPD and OPD of SDM college of Ayurveda and Hospital, Udupi.

**Method of Collection of Data:**

40 patients diagnosed with *Shudha Vrana* were randomly assigned into group A and group B with 20 patients each and subjected to a clinical trial with consent.

Data was collected based on a detailed proforma designed especially for the study.

**Method of Collection of Sample:**

Samples of *Yashadha Bhasma* and *Lodra Choorna* were collected from SDM Pharmacy, Udupi.

**Inclusion Criteria:**

1. Patients with age groups between 16-70 years will be included.
2. *Vrana* with features of *shudha vrana* like *Sama*, *Sthira Mamsa*, *Twak Sthana*, *Mrudu*, *Snigdha*, *Slakshna*, *Vigada Vedhana*, *Nirasrava*, *Jihwatalaba*.

**Exclusion Criteria:**

1. Patients suffering from systemic illnesses like uncontrolled diabetes, TB, HIV.
2. A patient suffering from a specific type of ulcer-like Tubercular ulcer, Syphilitic ulcer, soft sores, Actinomycosis, Malignant ulcer was excluded.
3. A patient suffering from Gangrene, Burns, and Sepsis was excluded.
4. Patients having features of *Dushta Vrana* were excluded.

## METHODOLOGY OF STUDY

**GROUP A-** The ulcer was cleaned with normal saline and the surrounding was wiped. Using the swab, mop the area of the ulcer, and a dusting of *Bhasma* of sufficient quantity was carried out. Then cover the ulcer with dry gauze and bandaging was done and retained for the entire 1 day till the next bandaging.

**GROUP B-** Same as the above procedure with the use of *Lodra choorna*.

### Duration of the Treatment

The procedure was carried out for a maximum of 7 days or till the ulcer heals.

### Observational Period During Intervention

The changes in the ulcer were observed before the study and also on the 1<sup>st</sup>, 3<sup>rd</sup>, 5<sup>th</sup>, and 7<sup>th</sup> day as per case proforma.

### Follow Up Period

After completion of treatment, follow-up was done once a week for 3 weeks.

## ASSESSMENT CRITERIA AND GRADING PARAMETERS

**Subjective criteria:** *Vedhana, Srava*

**Objective criteria:** Size of ulcer, Granulation tissue

**Pain-** 0 (No pain)

1 (Hurts a little bit)

2 (Hurts a little more)

**Srava-** 0 (No discharge)

1 (Scanty or serous discharge)

2 (Purulent discharge)

3 (Bloody discharge)

**Size of the ulcer-** A graph paper is placed on the ulcer and its margin marked on the graph sheet. Area of the ulcer = number of squares presents inside the marked margin.

**Floor and granulation tissue**

0 (ulcer healed completely)

1 (Even floor, completely covered with granulation tissue)

2 (Uneven floor with patches of granulation tissue)

3 (Uneven floor with spots of granulation tissue)

4 (Uneven floor, no granulation tissue, fibrous tissue, slough)

## OBSERVATION AND RESULTS

**Table 2:** Effect of subjective criteria (Wilcoxon test)

Parameters	Mean Score		P value	
	Gr A	Gr B	Gr A	Gr B
<b>Pain</b>				
BT – 1 <sup>st</sup> day	2.10	2.00	1.00	1.00
BT -7 <sup>th</sup> day	1.15	1.10	.001	.000
BT - 28 <sup>th</sup> day	1.00	1.00	.000	.000
<b>Discharge</b>				
BT- 1 <sup>st</sup> day	2.00	2.00	1.00	1.00
BT- 7 <sup>th</sup> day	1.35	1.65	.000	.008
BT - 28 <sup>th</sup> day	1.00	1.00	.000	.000
<b>Floor</b>				
BT- 1 <sup>st</sup> day	2.00	1.00	2.00	1.00
BT - 7 <sup>th</sup> day	2.00	2.00	1.00	1.00
BT - 28 <sup>th</sup> day	1.45	1.85	.001	.083

Comparing the criteria, it is showing that group A has better improvement compared to group B

**Table 3:** Effect of objective criteria (paired t-test)

Parameter	Group	MD	Percentage
DAY 7 SIZE	GR A	2.72	30.32 %
	GR B	2.00	21.57 %
DAY 28 SIZE	GR A	.864	91.64 %
	GR B	1.16	75.91 %

- Comparing the result before and after the intervention using the unpaired t-test reveals that it is statistically significant with the p-value being 0.027. The overall result in the size reduction of group A is 91.64 % whereas group B is 75.91 %.



## DISCUSSION

After analysing the results, the probable mode of action can be concluded as follows:

### *Yashadha bhasma*

- *Kashaya* and *Katurasa*, *Sitavirya*, *Kaphapittashamaka* and *Vatanasaka*.

- Helps in *Ropana* and *Shoshana Karma*, promotes *Sthirakarana*, *Raktaprasadana*.
- Acts as *Vrana Samsravarodhana* and *Sleshmakalasangochaka Karma*

In recent studies, it is proven that *Yashadha Bhasma* has anti-inflammatory, antioxidant, anti-microbial, wound healing properties. Zn is an essential component in the wound healing mechanism that aids

in tissue growth, connective tissue growth, neovascularisation, collagen tissue formation, wound healing, etc. which accelerates the wound healing mechanism from the early inflammatory phase to the maturation phase in this study.

#### **Lodra choorna**

- Possess *Kashaya, Tikta Rasa, Sitavirya, Laghu Ruksha Guna* and *Vranaropana Karma*.
- Phytochemical constituents: phenolic glycosides like symplocoside, triterpenoids, oleanolic acid; flavanoids, loturine, loturidine, and colloturine help in analgesic, anti-inflammatory, antioxidant, anti-microbial which quicken the wound healing by recent studies.

#### **CONCLUSION**

Group A had a 91.64% faster rate in wound healing compared to group B (75.91%) Hence concluding that both are effective in the transformation of *Shudda Vrana* into *Roohyamana Avastha* (in modern parlance, epithelialisation of ulcer) within a short span without any internal medications and complications. On considering the overall assessment parameters, it is proven that (group A) had shown better effect in reducing pain, and discharge, and promoting

granulation tissue which accelerates the wound healing process.

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