



COMPARATIVE CLINICAL STUDY OF *PRAPOUNDARIKADI GHRITHA* AND *JATHYADI GHRITHA* IN THE MANAGEMENT OF *GRISHTA VRANA*

Research article

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ABSTRACT

The wound is defined as the discontinuity of covering epithelium due to external injury. Following injury, an inflammatory response occurs and the cells below the dermis begins to increase collagen production. Later the epithelial tissue regenerated. Wound healing is considered to be a natural process, many factors can cause complications and also hamper the healing process. so wound healing management is one of the critical problems in *Shalya Tantra*. Keeping this in view, the above study is proposed to evaluate the effect of *Prapoundarikadi Ghritha* and *Jathyadi Ghritha* in the management of *Ghrishta Vrana*. In the present study, patients were registered from OPD/IPD of the department of *Shalya Tantra*, Karnataka Ayurveda Medical College, and Hospital Mangalore, and all the selected criteria were assessed.

Results: In Group A (treating with *Prapoundarikadi ghritha*) out of 30 patients, 17% patients had moderate improvement, 73% patients had marked improvement, 13% patients had complete remission. In Group B (treating with *Jathyadi ghritha*) out of 30 patients, 63% patients showed marked response and 37% patients showed Complete remission. there were no patients had moderate improvement, mild improvement or in Unchanged result.

Conclusion: According to clinical observations, the *Prapoundarikadi Ghritha* and *Jathyadi Ghritha* both possess *Shodhana* and *Ropana* properties They also possess anti-inflammatory, antibacterial, and analgesic effects. After testing the effectiveness of *Prapoundarikadi ghritha* against the Standard *Jathyadi Ghritha*, results showed that *Jathyadi ghritha* has better results than the *Prapoundarikadi ghritha* in *Ghrishta vrana*.

Key words: *Ghrishta vrana*, *Prapoundarikadi Ghritha*, *Jathyadi ghritha*, *Vrana Ropana*

INTRODUCTION: *Vrana* is the most prevalent painful condition that every human being experiences throughout their lifetime. As a result, it is the surgeon's responsibility to ensure that the patient is cured in a timely manner with minimal pain and cost. Wound management was most likely the first medico-surgical problem that physicians encountered¹. *Ghrishta Vrana* is defined by Acharya

Sushruta in Sushruta Samhita *Chikitsasthana* as when skin is removed by rubbing or any other cause associated with burning sensation and discharge². *Vrana* is of two types based on its origin as *Shaareera* due to the involvement of *doshas* and *Agantuja* – caused by *Abhigataja*. Our Acharyas explain *Agantuja Vrana* in a separate chapter as *Sadyovrana*³. The word *Agantu* is defined

as what comes later or afterward, which is incidental or accidental, occurs due to an external cause by Amarakosha. *Abhighata* can be caused by *Purusha, Pashu, Pakshi, Vyala, Sarisripa, Patana, Peedana, Prahara, Agni, Kshara, Tikshnoushadha, Shakala, Kapala, Shringa, Chakra, Ishu, Parashu, Shakti or Kunta*⁴. *Sadyovrana* is a type of *Agantuja Vrana*. *Sadyovrana* is defined as; “*Sadyovrana ye sahasa sambhavanti abhighatataha*”⁵ -which occurs suddenly due to a trauma. Acharya Vriddha Vagbhata explained *Sadyovrana* as *Kshata- “Tvagaadi Kshananaat”* which means injury to *Tvagadi vranavastu*⁶. Traumatic wound is the commonest painful condition which should be cured within short period with less cost effect. *Prapoundarikadi Ghritha* and *Jathyadi Ghritha* is explained by n Chakradatta, Bhaishajya Ratnavali, and Sushruta Samhita for the management of the wound and abscess and *Jathyadi ghritha* is explained by *Vagbhata in Astanga Hridaya*, it works as *Vrana Ropaka*, based on their respective *Rasapanchakas*, so the

Ropana activity of *Prapoundarikadi Ghritha* and *Jathyadi Ghritha* needs to be explored by scientific research⁷.

These formulations are easily available, cost effective and multipurpose. These can alone fulfil the need of antiseptic, cosmetic and healing enhancing agent. The ingredients of both formulations are easily available in India; it will be available for instant use, economical and prove to be a blessing for the mankind.

DISEASE REVIEW:

NIDANA: *Agantuja* (exogenous/traumatic) is caused by trauma from blowing, binding, falling down, injury with fangs, teeth or nails as well as due to poisonous contact, fire and weapons etc. An abrasion is a type of mechanical injury characterized by loss of superficial layer of skin (i.e. epidermis) or mucous membrane due to application of mechanical force⁸.

RUPA: When skin is removed by friction, rubbing or any other cause presenting with complaints like *Vrana Daha, Srava* and *Vedana* is known as *Ghrishta Vrana* which can be compared with Abrasion wound.

SAMPRAPTI:

TRAUMA



VITIATION OF RAKTA AND PITTA



VITIATION OF KAPHA AND VATA



FORMATION OF SHOPHA



FORMATION OF VRANA

CLASSIFICATION: *Sushruta* has classified the *Agantuja Vrana* into 6

varieties according to their nature, depth, by the violence, surrounding tissue⁹.

1. *Chinnam*: Excised wound

2. *Bhinnam*: Deep punctured wound
3. *Viddham*: Superficially punctured wound
4. *Kshataja*: Incised wound
5. *Picchitha*: Contusion
6. *Ghrishta*: Abrasion wound

Table No 01- Ghrishta Vrana Lakshanas:

Types	Sushruta Samhita ²	Astanga Hridaya ¹⁰	Madhava Nidana ¹¹
<i>Ghrishta</i>	Peeling of skin of any part of body accompanied with watery exudation.	Exudes <i>Lasika</i> alone or Mixed with little of <i>Rakta</i> associated with burning sensation	Peeling of skin of any part of body accompanied with watery exudation.

CHIKITSA:

Samanya Chikitsa: Immediate general treatment is to pacify the *ushma* released at the site of injury by *Sheetala Kriya's* (cooling measures) [i.e. like that of *Pitta Chikitsa*] along with use of *Madhu*, *Ghritha* for *Shodhana*. *Sadhyo Vrana* which has severe pain should be washed in warm *Yashtimadhu Ghritha* or *Bala Taila* often in order to mitigate the heat of *Vrana*¹². Drugs which possess *Kashaaya*, *Sheeta*, *Madhura*, *Snigdha* properties should be used for *Lepa*¹³. *Snehapana*, *Parisheka*, *Swedana*, *Lepa*, *Upanaaha*, *Snehabasti* prepared from *Vatahara* drugs should be administered.

Vishesha Chikitsa: *Ghrishta Vrana*: - In order to pacify *Ushna*, *Sheetala Aalepa*, *Parisheka* should be done. These should be treated with *Choornas* (of *Saala*, *Arjuna* etc.) after relieving pain (by applying *Madhuka*, cold etc.)

AIMS AND OBJECTIVES OF THE STUDY:

- Detail study of *Ghrishta vrana*
- To observe the Role of *Prapoundarikadi Ghritha* in *Ghrishta Vrana*.

MATERIALS AND METHODS:

SOURCE OF DATA

A. Literary data: Literary study of *Ghrishta vrana*, *Prapoundarikadi ghritha* was done

B. Sample source: Patient with the classical feature of *Ghrishta Vrana* was selected from the *Shalya tantra* OPD/IPD of Karnataka Ayurveda Medical College and hospital Mangalore and from other camps and referrals.

C. Pharmaceutical source: Raw material were collected from local market after proper identification and formulation of *Prapoundarikadi Ghritha* and *Jathyadi ghritha* was prepared in *Rasa Shastra* and *Bhaishajya Kalpana* department in Karnataka Ayurveda Medical College Pharmacy as per literature reference

Methods of Collection of Data:

For present clinical study 60 Patients of *Ghrishta Vrana* were selected from the *Shalya tantra* OPD/IPD of Karnataka Ayurveda Medical College and hospital Mangalore and from other camps and referrals. These patients were selected irrespective of their age, sex, religion, educational, marital, and socio economic status. Detailed history of all patient were obtained as per prepared proforma. Routine investigations were done based on necessity like RBS, HIV, HbsAg. Random sampling of patients was done. Informed written consent of each patient taken for the study. Then clinical trial was conducted.

Grouping of patient-In present clinical study, two groups were done as

follows. In each group 30 patients of *Ghrishtha Vrana* were selected for study

Diagnosis criteria:

The clinical features of *Ghrishtha vrana* as mentioned in classics was taken as the criteria for diagnosis

INCLUSION CRITERIA:

- Patients irrespective of age, gender, religion.
- Classical feature of *Ghrishtha Vrana*.
- Wound due to accident and trauma.

Exclusion criteria:

- Traumatic wound greater than 7 days.
- Infected wound.
- Wound with Fracture, Dislocation, Severe haemorrhage

Investigation: Any relevant investigations if needed.

Study Design: Randomized comparative clinical study.

Group A: Selected 30 patients had been treated with *Prapoundarikadi ghritha* as external application for 7 days

Group B: Selected 30 patients had been treated with *Jathyadi ghritha* as external application for 7 days

PROCEDURE: Wound is washed with normal saline. After removal of foreign materials/debris, gauze dipped in *Prapoundarikadi Ghritha* / *Jathyadi Ghritha* is applied over the wound and wound dressing done.

Composition of test drug

***Prapoundarikadi Ghritha*¹⁴:**

Prapoundarika, Manjishta, Madhuka, Usheera, Padmaka, Haridra, Sarpi and Ksheera.

***Jathyadi Ghritha*¹⁵:**

Jati, Nimba, Patola, Katuka, Haridra, Daru Haridra, Manjishta, Sariva, Abhaya, Sikta, Tuttha, Madhuka, Karanja, Ghritha, Jala

Study duration – 7 days

Observation – up to 14 days

Follow up – Up to 28 days at an interval of 7 days

ASSESSMENT CRITERIA:

The result of treatment was assessed on the basis of subjective & objective criteria by a suitable score/grading to each parameter.

SUBJECTIVE PARAMETERS:

Pain on VAS: As the patient, himself expresses the pain in his own terms, the parameters starting from mild to severe on par with the VAS.

- Grade 0 – No pain.
- Grade 1 – Occasional localised feeling of pain.
- Grade 2 – localised feeling of pain during movement, but tolerable.
- Grade 3 – Localised feeling of pain even during rest, disturbing sleep.

Burning Sensation:

- Grade 0 – (Nil) No burning sensation.
- Grade 1 – (Mild) Occasional localized burning sensation.
- Grade 2 – (Moderate) Intermittent localized burning sensation.
- Grade 3 – (Severe) Continuous burning sensation which disturbs sleep.

OBJECTIVE PARAMETERS:

Tissue involvement:

- Grade 0 – Normal skin.
- Grade 1 – Only epidermal injury.
- Grade 2 – Epidermis as well as dermis with slight bleeding.
- Grade 3 – Damage to the subcutaneous layer and to the skin.

Discharge:

- Grade 0 – No discharge or dry dressing
- Grade 1 – Scanty and occasional discharge.
- Grade 2 – Often discharge and with blood on discharge.

- Grade 3 – Profuse, continuous discharge which needs frequent dressing.

Swelling:

- Grade 0 – Absent.
- Grade 1 – Slight swelling around the wound margin without indurations.
- Grade 2 – Swelling around wound margin with little area of indurations.
- Grade 3 – Swelling with marked indurations.

Tenderness:

- Grade 0 – No tenderness.
- Grade 1 – Patient allows to touch.
- Grade 2 – Patient winces the part while touching.
- Grade 3 – Patient does not allow to touch.

Granulation Tissue:

- Grade 0 – Healthy granulation.
- Grade 1 – Moderate granulation.
- Grade 2 – Unhealthy granulation.
- Grade 3 – No granulation.

Size: After calculation of L×B. Two dimensional the size was directly recorded. The sterile blotting paper was placed over the wound and pressed with uniform

pressure. The impression was directly measured.

- Grade 0 – 0 to 1 cm
- Grade 1 – 1.1 to 2 cm
- Grade 2 – 2.1 to 3 cm
- Grade 3 – 3.1 to 4 cm
- Grade 4 – 4.1 to 5cm or above

Unit healing time (cm² / day) = Initial surface area of wound – surface area of wound after 7 days of treatment / duration of study (7 days) = surface area healed in sq. cm / no. of days.

OBSERVATION AND RESULT

According to the current study, 31.7% of people in the 15 to 34 age range had a higher incidence of *Ghrishta vrana*. The majority of patients i.e. 63.3% were men, Maximum 86.7% of patients were Hindus in terms of religion, about 38.3% of students in terms of occupation, 66.7% of persons who are not married in terms of marital status were affected. 70% of patients had never used tobacco, alcohol etc. 30% more cases were observed in LUL when cases were distributed site-wise, based on dimensions that range from 1×1cm to 3×3 cm, i.e. 81.7%.

Fig.No.1: Before treatment



Fig.No.2: After treatment



Results in Jathyadi ghritha on 0th day and on 7th day:

Fig. No. 3: Before treatment



Fig.No.4: After treatment



RESULT: Table no.2: Comparative results of Group-A and Group-B

Parameters	Group A				Group B			
	Mean score		% of Relief (BT)	% of Relief (FU)	Mean score		% of Relief (BT)	% of Relief (FU)
	BT	FU			BT	FU		
Pain	3.00	0.51	74%	84%	3.00	0.43	82%	92%
Burning sensation	2.70	0.49	84%	86%	2.70	0.83	90%	94%
Tissue involvement	1.77	0.43	68%	96%	1.67	0.35	80%	92%
Discharge	1.80	0.25	94%	96%	1.80	0.18	98%	98%
Swelling	1.10	0.35	82%	88%	1.17	0.18	92%	97%
Tenderness	2.13	0.35	87%	94%	2.13	0.18	92%	99%
Granulation Tissue	1.00	0.35	80%	87%	1.00	0.25	90%	93%
Size	1.83	0.49	49%	80%	1.80	0.45	52%	85%

Chart No.1: Results based on assessment criteria in Group A

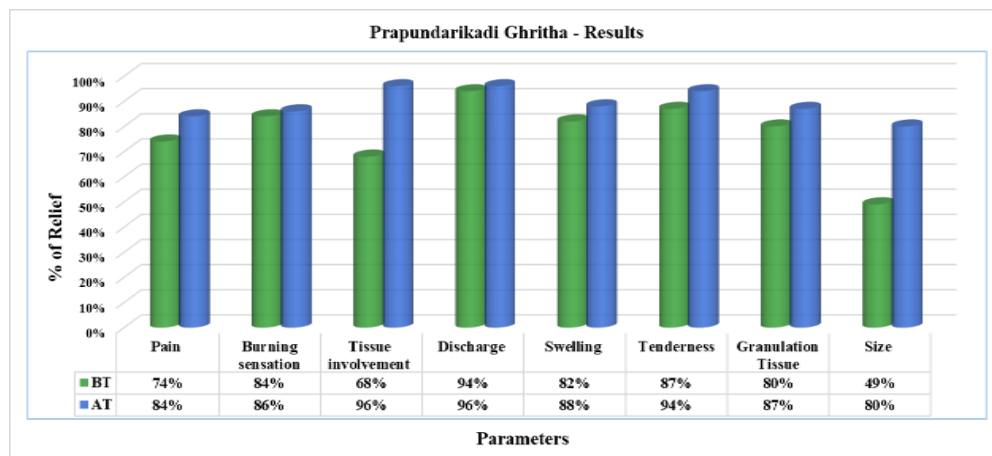
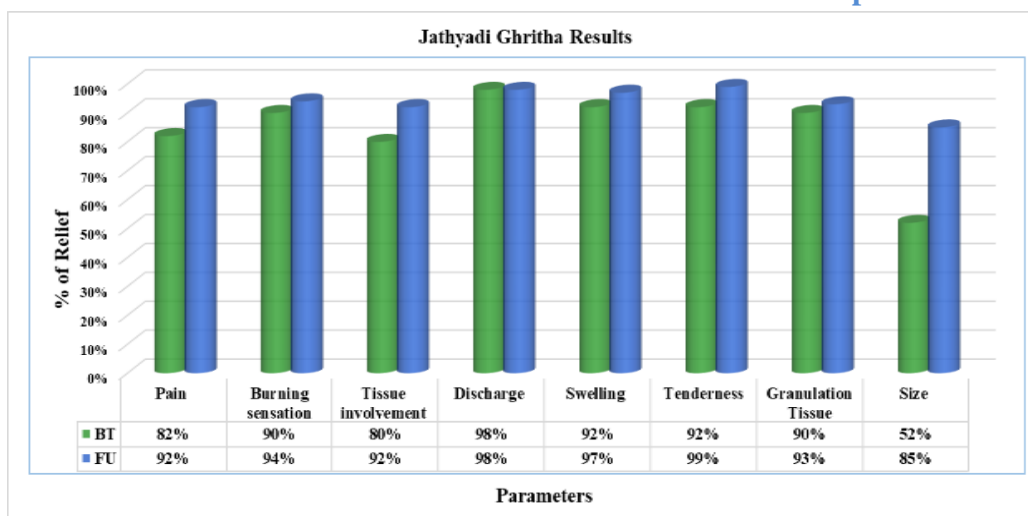


Chart No.2: Results based on assessment criteria in Group B



DISCUSSION:

Acharya Sushruta has narrated each and every tiny as well as important point coming across any type of surgery, in equally scientific manner which are useful and valid even today and are called as *shashtiupakrama's*. The science of "*Vrana Ropana*" seems to be a serious matter of concern to the ancient healers. This fact can be very well understood while going through the *Sushruta Samhita* where a good number of chapters' deals with the science of *Vrana* alone. Though, wound healing is a physiological process which normally does not require much help. There is no doubt, that art of surgery revolves around the *Vrana* and its essence is uncomplicated healing. Modern advance in molecular biological research techniques have increased the gap between ayurvedic understanding of the mechanisms of wound healing and the clinical application of this knowledge. Medicine is also known as the art of healing while curative methods are being refined and developed at a rapid pace and healing remains the prime objective of the physicians. The mission of the wound healing is to increase basic understanding of the molecular and cellular events of the

cellular repair and wound healing processes, and to use this information as the basis for developing new therapies that minimize the adverse consequences of wound injuries. Such novel therapies could enhance cellular repair, promote rapid wound closure, minimize hypertrophic scarring. *Abhighataja* could be considered as a main etiological factor to precipitate the clinical entity of abrasion wounds. The clinical study was targeted to evaluate the action of *Prapoundarikadi Ghritha* and *Jathyadi Ghritha* application with an aim to reduce pain, burning sensation, minimize the wound surface, reduce discharge, promotes epithelialization and granulation tissue and to avoid hypertrophic scar formation. The use of *Prapoundarikadi Ghritha* and *Jathyadi Ghritha* in the form of application having a wound healing properties and constitutes basic therapeutic approach in alleviating the symptoms of abrasion wound, scar prevention. This review supports the wound healing and scar prevention of abrasion wounds, due to presence of *Daha Shamaka*, *Vrana Ropana* properties in it.

Probable mode of action of Prapoundarikadi Ghritha:

Ingredients of *Prapoundarikadi Ghritha* has *Madhura, Tikta, Kashaya rasa Vata-Pittahara, Vedana Sthapana, Dahaprashamana, raktastambhana, Vrana Ropana, shothahara* properties as well as *madhura* and *katu vipaka*. Therefore, it provides *Dhatu Poshana* (Nutrition) to underlying *Dhatu*. Thus it acts as *Vrana Ropaka*. Its *Vishaghna* property helps to remove microbes or *Rakshasas* and toxins liberated by dead tissues from wound. Due to *sheeta veerya* it acts as *pittashamaka* hence has *Daha prashamana* property. So it decreases the *sthanika ushma* caused by the trauma. It is *Stambhana* and *Raktashodhaka* so, that it helps to stop bleeding or any discharge from wound. *Varnya* property contributes in healing by preserving the natural skin color. *Ghritha* is the medium of combination and possesses *Vrana Shodhana* and *Ropana* properties and is *Vata-Pitta Samana*. Therefore, the action of the drug enhanced by the *Ghritha*.

Probable mode of action of Jathyadi Ghritha:

Jathyadi Ghritha is a medicated *Ghritha* preparation used as *Vrana Ropaka* and mentioned in *Bhaishajya Ratnavali* and *Astanga Hridaya*. The majority of the dravyas in *Jathyadi Ghritha* have *Tikta rasa, Katu vipaka, laghu guna, ushna veerya*, and *ruksha guna pradhanatha*. *Tikta rasa* possesses the qualities of *twak mamsa sthireekarana* and *lekhana*. It might aid in eliminating slough tissue and boosting the tensile strength of the *vrana*. Due to *laghu guna*, the *vrana* acquires *avasadana* and *Shodhana* qualities, which leads to *Dosha pachana*. *Ushna veerya* aids in getting the medication all the way to the *vrana* location. One element in *Jathyadi ghritha* with *lekhana karma*

qualities is *Tuttha*. Therefore, it might help in slough clearance. *Sikta* has *jantughna, vrana Ropana*, and *sandhaniya* properties. *Sheeta veerya, madhura rasa*, and *Tridosahara* are properties of *Goghritha*. *Samskara anuvartana* is a property of *Goghritha*. *Yogavahi guna* transports the drug's active ingredient to the human tissues. *Jathyadi ghritha* aids in healing of *vrana* since it contains medicines that have both *Shodhana* and *Ropana* properties.

CONCLUSION: Both medications effects seemed to have a number of crucial characteristics that make them perfect as a dressing agent for wounds. It has been suggested that it would be able to treat wounds with both a medicine and a topical application. It considerably hastens the healing process. superior cosmetic outcomes derive from superior healing quality with minimal scar development and discolouration. Both elements are conveniently accessible. When compared to the different products now being utilised for wound treatment, they are more affordable. The medicine is therefore advantageous for the wound's quick and effective healing. To clarify the precise mechanism(s) of the wound healing activity, further research using more advanced investigative tools and with substantial sample sizes is necessary. According to clinical observations, the *Prapoundarikadi Ghritha* and *Jathyadi Ghritha* both possess *Shodhana* and *Ropana* properties They also possess anti-inflammatory, antibacterial, and analgesic effects.

Throughout the period of treatment, there were no negative effects discovered. Due to its efficiency and inexpensive price, it is superior at managing wounds. The results of the current study in Group A

(Prapoundarikadi ghritha) overall results showed 17% mild, 70% marked, and 13% complete response, while Group B (Jathyadi Ghritha) overall results showed 63% marked and, 37% complete response. Consequently, Jathyadi Ghritha is superior to Prapoundarikadi Ghritha in terms of effectiveness.

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