



Research Article

**A CLINICAL STUDY TO EVALUATE THE EFFECT OF GOMUTRA ARKA PARISHEKA AND JATHYADI GHRITA APPLICATION IN DUSHTA VRANA W.S.R. TO NON-HEALING ULCERS**

**B Prashanth<sup>1\*</sup>, K Prashanth<sup>2</sup>, H Ashwin<sup>3</sup>**

<sup>1</sup>PG Scholar, <sup>2</sup>Associate Professor, <sup>3</sup>Assistant Professor, Department Of PG Studies in Shalya Tantra, Shri Dharmasthala Manjunatheshwara college of Ayurveda, Udupi, Karnataka, India.

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ABSTRACT

*Vrana* is derived from the word '*Vran*' which means one which causes destruction and discoloration of the body parts. Current estimates indicate nearly 6 million people suffer from chronic wound worldwide. Wounds can significantly interfere with quality of life of the patient. It can also complicate into gangrene, septicemia and death. *Sushruta Acharya* explains the features of *Dushta Vrana*. *Shashtir Upakrama* is mentioned as management for *Vrana*. *Gomutra* is one among the *Parisheka Upakrama Dravya* as well as in *Krimighna Upakrama Dravya*. *Jathyadi gritha* is prescribed as *Vrana ropaka*. An effort is made to evaluate the effect of *Gomutra Arka Parisheka* followed by *Jathyadi Ghrita* topical application in *Dushta Vrana*. It is a single group open labelled, randomized clinical study with pre test and post test design. 30 patients diagnosed with *Dushta vrana* fulfilling the inclusion criteria were selected for clinical trial with consent and subjected to *Gomutra Arka parisheka* with *Jatyadhi Ghrita* application followed by internal medications. The *Parisheka* and application was done for 7 days, data is recorded daily. Data obtained were recorded and statically analyzed. The treatment showed significant clinical improvement in controlling of pain, itching, foul smell and discharge. Clinical study showed good improvement in healing of ulcers in terms of clearing of slough, formation of granulation tissue and wound contraction.

INTRODUCTION

*Vrana* is a disease which causes destruction and discoloration of the body part<sup>[1]</sup>. Similarly in modern medicine, an ulcer is a break in the continuity of the covering epithelium either skin or mucus membrane<sup>[2]</sup>. Current estimates indicate nearly 6 million people suffer from chronic wounds worldwide. There are very few Indian studies on the epidemiology of chronic wounds. In one study, the prevalence of chronic wounds in the community was reported as 4.5 million per 1000 population whereas that of acute wounds was about 10.5 million per 1000 population<sup>[3]</sup>. After an injury, healing occurs naturally and proceeds step by step until a healthy scar forms. The usual sequence of wound healing is influenced by several general factors, such as nutritional deficiencies, hormonal imbalances and several systemic disorders including

anaemia, diabetes, malnutrition, etc., as well as local factors, such as foreign bodies, infections, hematomas, etc. Therefore, in the current practice, all efforts are focused on keeping the wound clean throughout the several stages of healing. The healing process is typically completely handled by nature. A wound can be kept clean by the body's defense mechanisms like phagocytosis and its local enzymatic action on dead tissue. But at times when an infection is massive, the surface area of the wound is very large and slough or necrotic tissue is too much this auto-cleansing mechanism becomes inadequate<sup>[4]</sup>. *Acharya Sushruta* was aware of these facts and indicated the process by which these obstacles can be removed, allowing for continuous healing. This procedure is known as *Vrana Shodhana* and the *Vrana Ropana* procedure helps speed up the healing process subsequently. *Acharya Sushruta* mentioned *Shastirupakrama* for the *vrana*<sup>[5]</sup>. *Shastir upakrama* includes *Parisheka*<sup>[6]</sup>. *Parisheka* is primarily promoted to purify the *Vrana* as well as eradicate *Vrana Doshas* facilitating transformation of *Dushta vrana* into *Shuddha Vrana*.

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In *Ayurveda*, *Arka Kalpana* is used by *Lankapathi Ravana* which is explained in the treatise of *Arka Prakasha*, which goes into length regarding its preparation, storage, and utilization. This formulation has a one-year shelf life without the use of any preservatives. With more active ingredients extracted it is colorless, *Teekshna*, *Sukshma* and *Vyavayi guna* are present in *Arka Kalpana* which aids in achieving results more quickly<sup>[7]</sup>. The use of *Arka in Vrana* is mentioned in classics<sup>[8]</sup>. *Gomutra* is explained under *Mutra Varga*. It is widely used in the management of wound care. This helps in faster healing by promoting granulation tissue formation, which has been used for various therapeutical benefits like anticancer and immunomodulatory effects. *Gomutra* is listed as one of the *Dravya* in *Parisheka* and *Krimighna Upakramas*<sup>[9]</sup>. *Gomutra* has *Krimihara* property. *Gomutra* is effective for *Shodhana*<sup>[10]</sup>, *Lekhana*, *Vedana Shamaka*, *Kandu Shamaka*, *Krimi kustha hara*<sup>[11]</sup>. *Ghrita Upakrama* is advised for *Shodana* and *Ropana* in (vitiated *Pitta* and *Rakta*) case of chronic deep-seated suppurative ulcers with burning sensation<sup>[12]</sup>. *Acharya Vagbhata* has advocated *Jathyadi Ghrita* for *Vrana Ropana* in *Ghambira Saruja vrana*<sup>[13]</sup>.

## AIMS AND OBJECTIVES

To evaluate the effect of *Gomutra Arka Parisheka* followed by *Jathyadi Ghrita* topical application in *Dushta Vrana*.

## Study Design

It is a single group open labelled, randomized clinical study with pretest and post test design. 30 patients diagnosed with *Dushta vrana* fulfilling the inclusion criteria were selected for clinical trial with *Gomutra Arka parisheka* and *Jatyadhi Ghrita* application with internal medication. A case proforma was specially designed for the study based on subject and objective criteria observations results were recorded. Results obtained are recorded and statistically analyzed using paired t-test and Wilcoxon signed rank test.

## MATERIALS AND METHODS

### Source of Drug

1. *Gomutra Arka* collected from dispensary of SDM Hospital, Udupi, manufactured by SDP pharmacy.
2. *Jathyadi Ghrita* collected from SDM pharmacy, Udupi.

**Literary Source:** S.D.M Ayurveda College library and Internet source.

**Source of subjects:** 30 patients diagnosed with *Dushta vrana* full filling the inclusion criteria were selected from outpatient and inpatient department of Sri Dharmasthala Manjunatheshwara Ayurveda Hospital, Kuthpady, Udupi.

## Method of Collection of Data

30 patients diagnosed with *Dushta vrana* full filling the inclusion criteria were selected for clinical trial with consent and subjected to *Gomutra Arka parisheka* with *Jatyadhi Ghrita* application followed dry gauze dressing daily and internal medication. A research case proforma specially designed for this study, based on subjective and objective criteria. The *Parisheka* and application was done for 7 and 14<sup>th</sup> day, data is recorded daily. Data obtained were recorded and statically analyzed.

## Intervention

**Local Intervention:** *Dushta vrana* initially is cleaned with normal saline and surrounding area cleaned with surgical spirit followed by which *Gomutra Arka parisheka* is done for 5 min, then the ulcer and the surrounding area is mopped and dried with sterile gauze piece. followed by *Jathyadi Ghrita* application dressing is done with sterile gauze and pad.

## Internal Medication

All the patients selected for the study will be administered orally with the following medicine throughout the course of treatment:

- 1) *Triphala Guggulu* (450mg) 1TID
- 2) *Gandhaka Rasayana* (250mg) 1TID

## Procedure

**Poorva Karma:** with informed written consent the procedure of *Gomutra Arka Parisheka* and *Jatyadhi Ghrita* application was briefed to the subject. *Gomutra Arka* and *Jatyadhi Ghrita* collected from the pharmacy and used for the ulcers.

**Materials:** Well illuminated room with privacy, dressing table, glove.

**For dressing:** Sterile artery forceps, sterile cotton swabs, sterile gauze piece, sterile pads, normal saline, spirit, kidney tray and roller gauze.

**Pradhana karma:** Patient is made to lie down on dressing table in a comfortable position with good access of dressing. *Dushta Vrana* initially is cleaned with normal saline and surrounding area cleaned with surgical spirit followed by which *Gomutra Arka parisheka* is done for 5 min, then the ulcer and the surrounding area is mopped and dried with sterile gauze piece followed by *Jathyadi Ghrita* application dressing is done with sterile gauze and pad.

**Paschat karma:** Bandaging is done after placing sterile pad by using roller bandage. Dressing is changed once daily.

## Duration of Treatment

Intervention will be carried out for duration of 7 days.

## Observational Period During Intervention

The changes in the ulcer will be observed 0<sup>th</sup> day, 3<sup>rd</sup>, 5<sup>th</sup> and 7<sup>th</sup> day, as per the case proforma.

**Follow Up Period**

After completion of the treatment, follow up will be done for a week on 14<sup>th</sup> day.

**Diagnostic Criteria**

Subject diagnosed with non-specific type of ulcers.

**Inclusion Criteria**

- Subject diagnosed with *Dushta Vrana* for duration of 21 days or more.
- Subjects within the age group of 18-70 years.
- Ulcer having a size less than 15cm.

**Exclusion Criteria**

- Patients suffering from severe systemic illness like uncontrolled diabetes mellitus, TB, HIV.
- Patients suffering from gangrene, osteomyelitis, burns, sepsis.

**Investigations**

- Blood- Hb%, total leukocyte count, differential count, ESR, RBS, HIV, HBsAg, HbA1c.
- Urine- analysis (if necessary)
- Wound swab culture and sensitivity test (if necessary).
- X-Ray of wound site (if necessary)

**Assessment Criteria**

**Therapy Session Data**

**Table 1. Total Duration of Therapy**

Assessment criteria	1 <sup>st</sup> day	2 <sup>nd</sup> day	3 <sup>rd</sup> day	4 <sup>th</sup> day	5 <sup>th</sup> day	6 <sup>th</sup> day	7 <sup>th</sup> day	14 <sup>th</sup> day
Subjective parameter								
<i>Vedhana</i> (pain)								
<i>Kandu</i> (itching)								
<i>Daha</i> (burning sensation)								
<i>Gandha</i> (odor)								
<i>Srava</i> (discharge)								
Objective parameter								
Size of ulcer								
Floor								

**Assessment and Follow Up Data**

**Grading of parameters for assessment of *Dushta Vrana***

**Table 2: Subjective Criteria**

Grade	<i>Sraava</i> / Discharge	<i>Vedana</i> / Pain	<i>Daaha</i> / Burning Sensation	<i>Kandu</i> / Itching	<i>Gandha</i> Foul smell	Floor and Granulation Tissue
<b>0</b>	No Discharge In 24 hours	No pain	No burning sensation	No itching	No smell	Even floor, completely covered with granulation tissue
<b>1</b>	Scanty discharge present requiring no change of dressing in 24 hours	Mild pain on touch	Mild occasional episodes of burning sensation	Mild occasional episodes of itching	Faint odour after opening dressing	Granulation tissue cover 75% of the floor
<b>2</b>	Moderate discharge Dressing changed within 24 hours	Mild pain even without touch	Moderate continuous burning sensation	Moderate continuous itching	Faint odour before opening dressing	Granulation tissue covering <75% and >25% of wound
<b>3</b>	Heavy discharge Dressing changed more than once in 24 hours	Continuous severe pain throughout day & night	Severe continuous burning, disturbing sleep	Severe continuous itching disturbing sleep	Strong unpleasant odour with or without opening dressing	Granulation tissue covering less than 25% of wound.

**Table 3: Objective Criteria**

Observation	<i>Aakruti/Size</i> - Length and breadth of the ulcer was measured with the help of imito Measure App and calculated
1 <sup>st</sup> day	
3 <sup>rd</sup> day	
5 <sup>th</sup> day	
7 <sup>th</sup> day	
14 <sup>th</sup> day	

## RESULTS AND DISCUSSION

Statistical analysis was done using IBM Statistical Package for Social Science (SPSS) 30 diagnosed case of *Dushta Vrana* were subjected to *Gomutra Arka Parisheka* and *Jatyadhi Ghrita* application for the period of 7 days and follow up on 14<sup>th</sup> day. Obtained observations were noted and analysed statistically. Parametric Test used for Scale and Ratio data is "paired -t Test". All the results were analysed for the p-value. Non-parametric test used for Nominal and Ordinal Data is "Wilcoxon signed rank Test". All the results obtained were analysed statistically for their significance i.e., before and after the treatment.

### Subjective Parameters - Discussion

**1. Effect on pain:** In the present study out of 30 patients, after comparing before and after treatment 7<sup>th</sup> day for the variable pain using Wilcoxon signed Rank test, Results obtained was statically highly significant, with a Z value of -4.41 and P value of 0.00.

**Summary:** In this study, out of 30 patients, 26 patients had pain. After the treatment, gradual reduction of pain is observed by the 7<sup>th</sup> day and at the end of the treatment there is significant reduction in the pain. *Vata* is the main *Dosha* causing pain. *Parisheka* is the procedure that is explained for alleviating pain. Further, *Ushna veerya* of *Gomutra Arka* helps in the alleviation of *vata* thereby reduces the pain. *Gomutra* is proved to have an Analgesic effect. *Jatyadhi Ghrita* is mainly indicated in *Saruja vrana*.

**2. Effect on Itching :** In the present study, out of 30 patients, after comparing before and after treatment on 7<sup>th</sup> day for the variable Itching using Wilcoxon signed Rank test, results obtained was statically highly significant, with a Z value of 4.23 and P value of 0.0.

**Summary:** 19 (63.3%) patients had complaint of Itching before the treatment which suggests the involvement of *Kapha dosha*. During intervention period most of the patients showed reduction in itching. *Katu* and *Kashaya rasa* of *Gomutra Arka* helps in attaining the *Niramaavastha* of *Kapha* thus

reducing *Kandu*/itching. Whereas the drugs present in *Jathyadi Ghrita* have *Kandugna* property.

**3. Effect on Burning Sensation:** In this study out of 30 patients, after comparing before and after treatment on 7<sup>th</sup> day for the variable burning sensation using Wilcoxon signed Rank test, results obtained was statically highly significant, with a Z value of -4.06 and P value of 0.00.

**Summary:** When the results compared in this study, out of 30 patients, 18 (60.0%) patients had complaint of burning sensation. This is due to vitiation on *Rakta* and *Pitta dosha*. Although many of the patients in this study showed improvement in burning sensation, some showed worsening of the symptom for which *Gomutra Arka* was used in the diluted form. As *Gomutra Arka* is *Usna teekshna* property *Pitta/Rakta* dominant ulcers showed aggravation of symptoms. However no patients had such intolerance for *Jathyadi Ghrita* topical use. In this study there is reduction of Burning sensation by 7<sup>th</sup> day of treatment. After completion of the intervention, improvement on burning sensation was statistically highly significant.

**4. Effect on Floor:** In this study out of 30 patients, after comparing before and after treatment on 7<sup>th</sup> day for the variable Floor using Wilcoxon signed Rank test, Results obtained was statically highly significant, with a Z value of -4.26 and P value of 0.00.

**Summary:** when the results compared in this study out of 30 patients, 56.7% had ulcers which are covered with pale granulation floor, 36.7% had a ulcers which are covered with slough. During intervention, significant reduction in the slough was found. *Kshara Guna*, *Lekhana* and *Chedhana* property is present in the *Gomutra Arka* helps in scrapping of unhealthy tissues from the ulcer floor and promoting granulation tissue. *Jathyadi Ghrita* is a proved drug used as both *Vrana shodhana* and *Vrana ropana*, possessing overall wound healing properties.

**5. Discharge/Vrana srava:** 76.7% patients had *Srava* as features. Majority of patients had sero purulent discharge. This is because most ulcers were chronic

and callous. During the course of treatment it was observed that there is significant reduction in discharge after 3-4 days of treatment. *Kshara guna, Lekhana, Chedana* property of *Gomutra* helps in slough debridement.

**6. Odour/Vrana Gandha:** 70.0% patients had *Gandha* in *Vrana*, as a symptom of *Vrana*. The reason for appearance of foul smell is infection causing tissue break down, microbial colonisation and due to improper wound hygiene. Study revealed maximum reduction in the odour by 7<sup>th</sup> day of the treatment and complete absence of the *Gandha* within 14<sup>th</sup> day. *Tikta* And *Kashaya rasa* of *Gomutra Arka* responsible for alleviating *Vikrutha Gandha*.

### Objective Criteria

**Effect on Area of Ulcer:** The mean score of variable Area of ulcer before treatment was 21.90sq cm and mean score of variable Area of ulcer on 14<sup>th</sup> day FU was 7.07sq cm, with a mean difference of 14.83sq cm and decrease in area which is statistically highly significant with a p value of 0.0.

**Summary:** Reduction in the mean score of variable area of the ulcer was seen. This indicates *Gomutra Arka Parisheka* and Application of *Jathyadi Ghrita* is effective *Vrana Shodhana* and *Vrana Ropana* along with internal medication *Triphala Guggulu, Gandhaka Rasayana. Gomutra Arka* is effective in slough debridement. Further use of *Jathyadi Ghrita* promotes wound healing with early growth of granulation tissue aiding rapid wound contraction and scar formation.

**Discussion on mode of Action:** *Arka Kalpana* imparts *Sukshma, Vyavayi* and *Laghupaki guna* due to which drug delivery becomes fast and effective.

- *Gomutra* is proved to possess analgesic and *Krimighna* property.

- *Parishekha* is a *Bahya Upakrama* used specially for alleviating the pain and inflammation in *Sopha* and *Vrana*.
- *Katu* and *Kashaya rasa* of *Gomutra* helps in alleviating *Kandu*.
- *Tikta* and *Kashaya rasa* of *Gomutra Arka* responsible for alleviating *Vikrutha Gandha*.
- *Kshara guna, Lekhana, Chedana* property of *Gomutra* helps in slough debridement in the ulcer facilitating granulation tissue formation.
- Drugs present in *Jathyadi Ghrita* have properties like *Tiktha rasa, Katu vipaka, Laghu guna, Ushna veerya, Ruksha guna* acts as *Vrana Shodana* and *Vrana Ropana*.

### CONCLUSION

From this clinical study to evaluate the effect of *Gomutra Arka Parisheka* and *Jathyadi Ghrita* application in *Dushta Vrana*, following conclusions are drawn:

- The treatment showed significant clinical improvement in controlling of pain, itching, foul smell and discharge.
- Clinical study showed good improvement in healing of ulcers in terms of clearing of slough, formation of granulation tissue and wound contraction (67.71% Mean score of Area reduction in ulcer size).
- *Gomutra Arka* should be used cautiously in *Pitta-Rakta* dominant ulcers, as it may cause intolerance.
- No intolerance or adverse reaction observed with *Jathyadi Ghrita* on topical use.
- A comprehensive treatment plan of *Gomutra Arka parisheka, Jathyadi Ghrita* application along with internal medications *Triphala Guggulu* and *Gandhaka Rasayana* has yielded remarkable improvement in wound healing.



Fig. 1 Gomutra Arka



Fig. 2 Jathyadi Ghrita



Fig. 3 Parisheka



Fig. 4 Before Treatment



Fig. 5 After Treatment



Fig. 6 Before Treatment



Fig. 7 During Treatment



Fig. 8 After Treatment

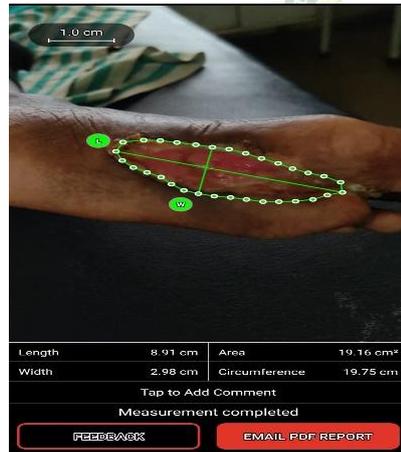


Fig. 9 Before Treatment



Fig. 10 After Treatment



Fig. 11 Before Treatment



Fig. 12 During Treatment



Fig. 13 After treatment

## REFERENCES

1. Murthy K R S, English Translation on Susruta Samhita of Susruta. Volume 1, Sutra Sthana; Vranaprashna Adhyaya: chapter no 21, verse 40. Varanasi: Chaukhamba Orientalia, Reprint 2017: 164.
2. Sriram Bhat M, SRB's Manual of Surgery 4<sup>th</sup> edition, Published by Jaypee Brothers Medical Publisher (P) Ltd, reprint 2013; Part 1, 2<sup>nd</sup> chapter, Ulcers, Pp.1336, pageno.14.
3. Gupta N, Gupta SK, Shukla VK, Singh SP. An Indian Community-Based Epidemiological Study of Wounds. J Wound Care. 2004 Sep; 13(8): 323-5. Doi: 10.12968/jowc.2004.13.8.26657. PMID: 15469216.
4. Shiram Bhat M. SRBS Manual of Surgery. Jaypee Brother's Medical Publishers (P) Ltd New Delhi 2013; 4<sup>th</sup> Edition: 14.
5. Murthy K R S, English Translation on Susruta Samhita of Susruta. Volume 2, Chikistsa Sthana; Dvivraneeya Adhyaya: Chapter no 1, Verse No8. Varanasi: Choukambha Orientalia, Reprint 2010: 25.
6. Murthy K R S, English Translation on Susruta Samhita of Susruta. Volume 2, Chikistsa Sthana; Dvivraneeya Adhyaya: Chapter no 1, Verse No8. Varanasi: Choukambha Orientalia, Reprint 2010: 25.
7. Indradeva Tripathi, Arkaprakasa of Langapati Ravan, Chowkamba Krishnadas Academy, 2006 edition, Pp172, page no-81.
8. Agnivesa, Charaka Samhita, Acharya Jadavji Trikamji, 2008 edition. Choukambha publication, Varanasi; pp 738, page no-21.
9. Murthy K R S, English Translation on Susruta Samhita of Susruta. Volume 2, Chikistsa Sthana; Dvivraneeya Adhyaya: Chapter no 1, Verse No121. Varanasi: Choukambha Orientalia, Reprint 2010: 25.
10. Krihnananda maharaja, Rasatantrasaar & siddaprayog sangraha, 2010 edition, Krishnagopal ayurveda bhavan, Ajmeer, pp 422, pg no 388.
11. Shukla V A Tripathi R D, Vaidyamanorama Hindi Commentary, Charaka Samhita of Agnivesha. Volume 1, Sutra Sthana; Dheerganjeevitiya Adhyaya: Chapter no 1, Verse No101. Choukhamba Sanskrit Pratishthan, Reprint 2019: 45.
12. Murthy K R S, English Translation on Susruta Samhita of Susruta. Volume 2, Chikistsa Sthana; Dvivraneeya Adhyaya: Chapter no 1, Verse No 56. Varanasi: Choukambha Orientalia, Reprint 2010: 16.
13. Shastri H, Editor, Sarvangasundari Commentary by Arunadutta & Ayurveda Rasayana Commentary by Hemadri, Ashtanga Hridaya of Vagbhata, Uttara Sthana Chapter 25 Vranapratisheha Adhyaya, Verse no 67. Varanasi: Choukamba Orientalia, 10<sup>th</sup> Edition Reprint 2011:869.

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### \*Address for correspondence

**Dr. B Prashanth**

PG Scholar

Department of PG Studies in

Shalya Tantra,

Shri Dharmasthala

Manjunatheshwara College of

Ayurveda, Udupi, Karnataka.

Email: [baginoorp@gmail.com](mailto:baginoorp@gmail.com)

Ph: 8861380212

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