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Comparative Clinical study of *Jatyadi Taila* and *Jatyadi Ghrita* in the management of *Dushta Vrana*

Dr. Rajendra Joshi,¹ Dr. N. B. Mashetti,² Dr. Rakesh Kumar Gujar.³

¹Post Graduate Scholar, ²Professor and Head, ³Assistant Professor, Department of Shalya Tantra, BLDEA's AVS Ayurveda Mahavidyalaya Hospital and Research Centre, Vijayapur, Karnataka, INDIA.

ABSTRACT

Dushta Vrana is a common and frequently encountered problem faced in surgical practice. The presence of *Dushta Vrana* worsens the condition of the patient with different complications and may become fatal. Local factors on wound like slough, infection and foreign body, affect the normal process of healing. A healthy wound in a normal body heals earlier with a minimum scar as compared to a contaminated wound. Therefore in this study all the efforts are made to make a *Dushta Vrana* into a *Shuddha Vrana*. Once the *Vrana* becomes *Shuddha*, *Ropana* of the *Vrana* will start. The objective of the study was to evaluate the clinical efficacy of *Jatyadi Taila* and *Jatyadi Ghrita* in *Dushta Vrana*. Clinically diagnosed 60 Patients of *Dushta Vrana* were randomly divided into two groups, each consisting of 30 Patients. Group A were treated with the *Jatyadi Taila* and Group B was treated by *Jatyadi Ghrita*. The results observed was based on the relief obtained on the subjective and objective parameters taken for consideration for this study viz, size of ulcer, discharge, smell, pain, burning sensation, itching and granulation were found significant ($P < 0.05$). On the basis of assessment criteria and overall result of treatment, the patients of *Jatyadi Taila* group showed better results when compared to *Jatyadi Ghrita* group. Even though statistically there is no much significant difference between the two groups, but by seeing the effect on individual parameters (subjective and objective) and over all response, *Jatyadi Taila* seems to be effective when compared to *Jatyadi Ghrita*. It is having more *Ropana* qualities when compared to *Shodhana*.

Key words: *Dushta Vrana*, *Non Healing Ulcer*, *Jatyadi Taila*, *Jatyadi Ghrita*.

INTRODUCTION

Shalya Tantra is one of the important branches of Ayurveda in which surgical and parasurgical techniques have been described for management of various surgical diseases. *Dushta Vrana* is one of them which have been managed by human being from

starting of civilization.

The first thing which the men name came across was the injury from different sources which caused him the *Vrana* (Wound).

The concept of *Vrana* is as old as human life. *Vrana* from the starting of life is described as a common and major problem faced by human. Thus, description of *Vrana* is found in most of literature related with human health. The earliest reference of *Vrana* is found in Vedic literature in context of injuries. Basic concept of wound cleansing, closure and splitting has been described in various medical systems. *Vrana* is the most important and widely described chapter of *Shalya Tantra* by *Sushruta*.^[1]

Sushruta is known for excellence in surgical procedures. He has described *Vrana* very precisely and in scientific manner with reference to *Shatkriyakala*, Types, Sub types,^[2] *Sasti Upakrama*^[7]

Address for correspondence:

Dr. Rajendra Joshi

Post Graduate Scholar, Department of Shalya Tantra, BLDEA's AVS Ayurveda Mahavidyalaya Hospital and Research Centre, Vijayapur, Karnataka, INDIA.

E-mail: drjoshi321@gmail.com

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(60 procedures for *Vrana* management), *Vrana Upadrava* (complications), *Saadhaya - Asaadhatya* (Prognosis),^[5] *Vranavastu* etc. He has clearly mentioned that that *Vranavastu* (scar) of a *Vrana* (wound) never disappear after complete healing and its imprint persists lifelong, that lesion is called *Vrana*.^[10] Every aspect about *Vrana* is described very beautifully and coherently.

Acharya Sushruta has scientifically classified *Vrana* as traumatic wound,^[2] *Shuddha Vrana*,^[3] *Naadi Vrana*,^[4] *Saadhya Vrana*,^[5] *Dagda Vrana*,^[6] etc. their prognostic evaluation and management in the form of sixty upakramas.^[7] Ayurvedic treatises have classified the *Vrana* as *Nija Vrana* and *Aagantuja Vrana*.^[11-13] It is further classified into 16 sub types (15 *Dosha Prakara* + 1 *Shuddha Vrana*3).^[3]

Sushruta has classified *Vrana* on the basis of characteristics like *Aakruti* (*Aayata*, *Chatusara*, *Vritta*, *Tripataka*) *Shabda*, *Dosha*, *Varna*, *Suchikitsya*, *Durchikitsya*.^[14]

Dushta Vrana Lakshana: *Durgandhita*, *Pooyayukta*, *Atipooyasrava*, *Utsangi*, *Chirakali*, *Dooshita*, *Atigandha Vrana Sraava*, *Vedanayukta*, *Shuddha lakshnaviparita*.

Shuddha Vrana Lakshana: *Jivhatala samana*, *Shlaksana*, *Snigdha*, *Alpavedana yukta*, *Sraavaheena*.^[15]

The term wound is break in the continuity of soft parts of body structures caused by violence of trauma of tissue.^[16] Ulcer is defined as "A local defect or excavation of the surface, of an organ of tissue produced by sloughing of necrotic tissue."^[17] Ulcer word is derived from Latin word "Ulcus" it means an open sore or lesion of the skin or mucous membrane accompanied by sloughing or inflamed necroses tissue.^[18]

Ulcer is a discontinuity, often excavation of skin exhibiting loss of epidermis and portion of the dermis and even subcutaneous fat. Despite the fact that wound healing is a natural process it is influenced by both and systemic factors, like microorganism, growth factors, vascularity and debris. The management of

Dushta Vrana has been described in various Ayurvedic texts. Many formulations are in use for centuries. Among these *Jatyadi Taila* and *Jatyadi Ghrita*^{[8],[9]} described in *Bhaishajya Ratnavali* is most widely used in various types of *Dushta Vrana*.

The goal of the study is to increase our basic understanding of wound healing at the molecular and cellular levels, events of the cellular repair and wound healing process and to use this information as the basis for developing new therapies that minimize the adverse consequences of wound healing. Such novel therapies could enhance cellular repair, promote rapid wound closure, minimize hypertrophic scarring or control scar contracture.

OBJECTIVE OF THE STUDY

To evaluate the clinical efficacy of *Jatyadi Taila* and *Jatyadi Ghrita* in *Dushta Vrana*.

MATERIALS AND METHODS

In the present study the diagnosed cases of *Dushta Vrana* were randomly selected from I.P.D and O.P.D. of Department of Shalya Tantra, BLDEA'S AVS Ayurveda Mahavidyalaya Hospital, Vijayapur and subjected to clinical trial. The methodology of clinical trial and observations are as follows.

Method of collection of data

Patient suffering from *Dushta Vrana* in the age group of 20 - 60 are selected randomly and are subjected to clinical trial.

The selected patients were divided into two groups of 30 each.

Group A: Sterile gauze impregnated with *Jatyadi Taila* is applied externally after cleaning the wound surface.

Group B: Sterile gauze impregnated with *Jatyadi Ghrita* is applied externally after cleaning the wound surface.

The signs and symptoms were recorded in the proforma designed specially for this study.

Inclusion criteria

- Patients irrespective of age, sex and occupation will be consider for the study.
- Patients having the clinical features of *Dushta Vrana* like *Kandu*, *Daha*, *Vedana*, *Shotha*, *Sraava*, *Pidaka*, *Vivarnata* and *Pootigandha* will be included in the study.
- Non healing traumatic ulcers will be included in the study.
- Wound / ulcer size 3 to 5 cm.
- Patients willing to give consent.

Exclusion criteria

- Gangrenous wounds, neurogenic ulcers, malignant ulcers, Ischemic ulcers, *Vrana* will be excluded.
- Wounds due to systemic pathologies like uncontrolled Diabetes etc.
- HIV, HbsAG and other immunological disorders will be excluded.

Investigations

- Hemoglobin%
- Total Leucocytes count.
- Deferential count.
- Erythrocyte segmentation rate.
- Urine analysis.
- FBS/PPBS
- HIV/HBSAG

Intervention

- Jatyadi Taila* dressing once daily.
- Jatyadi Ghrita* dressing once daily.

The method of dressing

The *Vrana* was cleaned with *Triphala Kwatha Dhavana*. Later the area is dried by a cotton plug using an artery forceps. Then in Group A - A sterile gauze impregnated with *Jatyadi Taila* was kept over

the *Vrana* and over it a sterile pad was placed and dressing was done.

In Group B - A sterile gauze impregnated with *Jatyadi Ghrita* was kept over the *Vrana*.

Bandaging was done every day in the morning. If the bandage becomes wet completely within 24 hours rebandaging was carried out.

Parameters of Assessment

The patients were assessed on the basis of subjective and objective parameters before and after treatment.

SN	Objective Parameters	Subjective Parameters
1	Size	Pain
2	Tenderness	Itching
3	Discharge	Burning Sensation
4	Smell	
5	Granulation tissue and Floor	

Follow up period

All the cases were treated upto a period of 30 days. 15 days assessment of the patient was carried out during this period.

OBSERVATIONS AND RESULTS

The following observations were made during the study.

- Incidence observations.
- Observations made before treatment, during the follow up and after treatment.

Incidence observations

As per the prepared proforma, observations were made regarding incidence of *Dushta Vrana* with regard to age, sex, occupation, religion, socioeconomic status, marital status, habitat, diet, chronicity, area involved, type of *Dushta Vrana*, *Adhishtaana* and cause of ulcer.

Table 1: Efficacy of Treatment in Group-A

S N	Symptom	Mean BT	Mean AT	Mean+SE	t	p
1	Pain	1.5	0.2	1.3+ 0.132	10.784	<0.05
2	Itching	0.9	0.1	0.8+0.114	11.66	<0.05
3	Burning sensation	1.5	0.14	1.42+0.110	12.90	<0.05
4	Tenderness	1.6	0.2	1.4+0.0974	14.222	<0.05
5	Discharge	1.6	0.2	1.4+0.097	14.822	<0.05
6	Smell	1.6	0	1.6+0.166	10	<0.05
7	Granulation tissue Development	2	0.4	1.6+0.090	17.587	<0.05
8	Length of Ulcer	3.46	0.26	3.2+0.742	43.081	<0.05
9	Width of Ulcer	1.88	0.18	1.7+0.118	14.29	<0.05
10	Depth of Ulcer	0.63	0	0.63+0.035	17.87	<0.05

Table 2: Efficacy of Treatment in Group-B

S N	Symptom	Mean BT	Mean AT	Mean+SE	t	p
1	Pain	2.1	0.6	1.5+0.129	14.616	<0.05
2	Itching	1.8	0.5	1.3+0.114	11.66	<0.05
3	Burning sensation	1.8	0.33	1.5+0.121	12.36	<0.05
4	Tenderness	1.9	0.6	1.3+0.085	15.276	<0.05

5	Discharge	2	0.3	1.7+0.114	14.577	<0.05
6	Smell	1.6	0.3	1.3+0.16	8	<0.05
7	Granulation tissue Development	2	0.7	1.3+0.085	15.276	<0.05
8	Length of Ulcer	3.45	0.31	3.1+0.067	43.081	<0.05
9	Width of Ulcer	1.88	0.15	1.73+0.114	15.16	<0.05
10	Depth of Ulcer	0.63	0	0.63+0.037	17.87	<0.05

DISCUSSION

Observations were made in 30 patients before treatment and after treatment with *Jatyadi Taila* application in group A and 30 patients before treatment and after treatment with *Jatyadi Ghrita* in group B with regard to the different subjective and objective criteria listed in the study proforma.

PAIN

Group A: All the patients were complaining of pain before treatment. The mean (pain) score was 1.5 and after treatment it was reduced to 0.06. Only two patients had mild pain at the end of the treatment. Among the types of *Dushta Vrana* i.e. *Vaata-Pittaja* and *Vaata-Kaphaja*, reduction of pain was observed in both the varieties without any significant variation. Among the causes of ulcers efficient reduction of pain in trial group was seen in varicose as well as traumatic ulcers without any significant variations.

Group B: All the patients were complaining of pain before treatment. The mean (pain) was 2.1 and after treatment it was reduced to 0.2. At the end of the treatment 6 patients had mild pain.

ITCHING

Group A: Before treatment 18 patients were having itching and the mean (itching) score was 0.9 and after

treatment itching was reduced completely in 15 patients. the mean was reduced to 0.1.

Group B: Before treatment 18 patients were having itching and the mean (itching) was 1.83 and after treatment itching was reduced completely in 12 patients, in remaining patients it was reduced to grade 1 and 2.

BURNING SENSATION

Group A: Before treatment 21 patients were having burning sensation and the mean (burning sensation) was 1.57 and after treatment in 18 patients it was reduced completely, in 3 patient and the mean was reduced to 0.14.

Group B: Before treatment 18 patients were having burning sensation and the mean (burning sensation) was 1.83 and after treatment in 12 patients it was reduced completely, in remaining patients it was reduced to grade 1 and the mean score was reduced to 0.3.

SIZE OF THE ULCER

Group A: Out of 30 patients, ulcer was healed completely in 16 patients and in remaining 14 patients marked reduction was noticed. Before treatment the mean score was 3.46cm (length), 1.88cm(width) and 0.63 (depth) and treatment mean was reduced to 0.26cm (length), 0.18cm (width) and 0.0cm (depth).

Group B: Out of 30 patients, ulcer was healed completely in 11 patients. The mean score before treatment was 3.45 (length), 1.88cm (width) and 0.63cm (depth) and after treatment the mean score was reduced to 0.31cm (length), 0.15cm (width) and 0.0cm (depth).

DISCHARGE

Group A: Before treatment 27 patients were having discharge from the ulcer and the mean (discharge) was 1.66 and after treatment in 21 patients discharge was reduced completely, in remaining patients it was reduced to grade 1 and the mean score was reduced to 0.22.

Group B: Before treatment 18 patients were having discharge from the ulcer and the mean score was 2.0 and after treatment in 12 patients discharge was reduced completely, in remaining it was reduced to grade 1 and the mean score was reduced to 0.33.

TENDERNESS

Group A: Before treatment tenderness was present in 30 patients and the mean (tenderness) score was 1.66 and after treatment in 21 patients tenderness was reduced completely, in remaining it was reduced to grade 1 and mean was reduced to 0.22.

Group B: Before treatment tenderness was present in 30 patients and the mean score was 1.9 and after treatment in 18 patients tenderness was reduced completely, in remaining it was reduced to grade 2 and 1, mean was reduced to 0.6.

SMELL

Group A: Before treatment 9 patients were having smell from the ulcer and the mean score was 1.66 and after treatment smell was reduced completely in 9 patients and the mean score was 0.

Group B: Before treatment 9 patients were having smell from the ulcer and the mean score was 1.66 and after treatment in 6 patients smell was reduced completely, in remaining 3 patient it was reduced to grade 1 and the mean score was reduced to 0.33.

Floor and granulation tissue

Group A: Before treatment all 30 patients were having irregular floor, slough and unhealthy granulation tissue, the mean score was 2 and after treatment floor became healthy in 18 patients, in remaining 12 it became smooth, regular with pale granulation tissue and mean was reduced to 0.4.

Group B: Before treatment all 30 patients were having irregular floor with pale granulation tissue and the mean was 2 and after treatment in 9 patients floor became healthy, in remaining patients it became smooth, regular with pale granulation tissue and the mean was reduced to 0.7.

Probable action of *Jatyadi Taila*

Most of the ingredients of *Jatyadi Taila* are having *Shodhana*, *Ropana*, *Vedana Sthaapana* properties, *Tikta*, *Katu*, *Kashaaya Rasas* and *Rooksha*, *Laghu Gunas*.

Kashaaya Rasa: It does *Shodhana* there by it might be helpful in *Vrana Ropana*.

Tikta Rasa: It does *Twak Maamsa Sthireekarana* and *Lekhana*. It might help in increasing tensile strength of wound and removal of slough.

Katu Rasa: It has *Vrana Shodhana* and *Avasaadhana* properties.

Tuttha: It is one of the ingredients of *Jatyadi Taila* having *Lekhana Karma*. So it may help in removing the slough. Even in current surgical practice $CuSO_4$ is used in the removal of slough from the ulcers. So *Tuttha* is one which may have such sort of action.

Tila Taila: It is used in the preparation of *Jatyadi Taila* and has *Ushna*, *Teekshna*, *Madhura*, *Vaataghna*, *Vyavaayi*, *Vikaasi*, *Sookshma* properties.

When it is treated with drugs it takes the properties of those drugs. So it might help (medicine) in reaching the minute spaces quickly by means of its *Sookshma*, *Vyavaayi*, *Vikaasi Gunas* and helps in reducing *Vedana* (because of *Vaataghna* property).

Probable action of *Jatyadi Ghrita*

Most of the ingredients of *Jatyadi Ghrita* are having *Shodhana*, *Ropana*, *Vedana Sthaapana* properties, *Tikta*, *Katu*, *Kashaaya Rasas* and *Rooksha*, *Laghu Gunas*.

Kashaaya Rasa: It does *Shodhana* there by it might be helpful in *Vrana Ropana*.

Tikta Rasa: It does *Twak Maamsa Sthireekarana* and *Lekhana*. It might help in increasing tensile strength of wound and removal of slough.

Katu Rasa: It has *Vrana Shodhana* and *Avasaadhana* properties.

Tuttha: It is one of the ingredients of *Jatyadi Taila* having *Lekhana Karma*. So it may help in removing the slough. Even in current surgical practice $CuSO_4$ is used

in the removal of slough from the ulcers. So *Tuttha* is one which may have such sort of action.

Ghrita: It is used in the preparation of *Jatyadi Ghrita* and has *Ushna*, *Teekshna*, *Madhura*, *Vaataghna*, *Vyavaayi*, *Vikaasi*, *Sookshma* properties. When it is treated with drugs it takes the properties of those drugs. So it might help in reaching the minute spaces quickly by means of its *Sookshma*, *Vyavaayi*, *Vikaasi Gunas* and helps in reducing *Vedana*.

CONCLUSION

In the trial group the results are of significant value in symptomatology like size of ulcer, discharge, smell, burning sensation, tenderness, floor and granulation tissue, pain and itching. Even though statistically there is no much significant difference between the two groups, but by seeing the effect on individual parameters (subjective and objective) and over all response *Jatyadi Taila* seems to be more effective when compared to *Jatyadi Ghrita*. It is having more of *Ropana* qualities when compared to *Shodhana*. Thus it can be concluded that *Jatyadi Taila* application externally is more effective in *Dushta Vrana* by their *Shodhana*, *Ropana*, *Vedana Shamaka* properties.

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