

A CLINICAL STUDY TO EVALUATE THE EFFICACY OF JATYADI GHRITA VIKESHIKA DRESSING IN THE MANAGEMENT OF DUSHTAVRANA W.S.R. TO VENOUS ULCER

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ABSTRACT

Venous ulcers are a frequently encountered problem in the present era produced commonly as a complication of varicose veins and it causes long-term agony to the patient. The properties of a venous ulcer-like non-healing nature, severe discharge pain itching etc. come under the umbrella of *Dushtavrana* explained by *Acharya Sushruta*. Management of chronic venous ulcers is a challenging one. Commonly practised gauze dressing for chronic ulcers may be disruptive for wound healing as it gets adhered to wound bed hampering breathing of wound and causing damage to granulation tissue during its removal. These factors may be responsible for delayed wound healing. In modern science, there are plenty of sterilized, packed dressing materials available in the market. But nowhere

Ayurvedic ready to use dressing material is manufactured or made available in the market. Keeping these into consideration, *Jatyadi Ghrita Vikeshika* i.e., the cloth containing *Jatyadi Ghrita* is prepared, packed and sterilized. This is compared with the Sofra-tulle of modern science. In the present comparative study, 40 patients were selected and divided into 2 groups of 20 patients each and trial group patients were treated with *Jatyadi Ghrita Vikeshika* dressing & control group patients were treated with Sofra-tulle dressing for 28 days. The study revealed highly significant results in both groups statistically.

On observation except for pain, in all other parameters, *Jatyadi Ghrita Vikeshika* was found more effective. Hence *Jatyadi Ghrita Vikeshika* can be undoubtedly used in *Dushtavrana* which promotes both *Shodhana* (Cleansing) and *Ropana* (Healing) of *Vrana*.

Keywords: *Dushtavrana*, Venous Ulcer, *Jatyadi Ghrita Vikeshika*, Sofra-Tulle dressing.

INTRODUCTION

As the French Barber surgeon Ambroise Pere rightly quoted, “I dressed him and God healed him”⁽¹⁾, wound healing is a natural process and all the treatments which we do are just to hasten its phase. From the era of Hippocrates where wine and vinegar were the chief wound healers, wound treatment has undergone great advancements and become an area of the quest for researchers.

Since the times of *Vedas* one can find the references for *Vrana Chikitsa* which indicates wound management was not new to the Indians. *Shalyatantra* one among *Ashtangas* of *Ayurveda* mainly emphasizes *Vrana*. *Acharya Sushruta* defines *Vrana* as, that which covers the body part and leaves its scar even after healing till the last breath of the individual.⁽²⁾ The features of *Dushtavrana* mentioned can be compared with chronic non-healing ulcers in modern science.

In modern science, ulcer refers to discontinuity in the covering epithelium, skin or mucous membrane and may either follow molecular death of surface epithelium or its traumatic removal.⁽³⁾ Among ulcers, venous ulcer constitutes 81% of leg ulcers. Surgical treatments available are unaffordable with a poor prognosis and high recurrence rate.

In the conservative management of modern science, there are plenty of dressing materials available for ulcers. Among them Sofra-tulle containing 1% Framacytein Sulphate, Soft Paraffin, Anhydrous lanolin is used as dressing material in potentially infected ulcers and burns. They are designed to re-

duce adherence at the wound bed and to allow exudates to pass into the secondary dressing, thus maintaining a moist wound bed which is very essential for early wound healing.⁽⁴⁾

The properties of a venous ulcer-like non-healing nature, severe discharge pain itching etc. come under the umbrella of *Dushtavrana* explained by *Acharya Sushruta*. Hence among *Shashti upakramas* an apt choice of treatment serves the purpose. *Jatyadi Ghrita* is widely used as *Vrana Shodhaka* and *Ropaka* and used in *Marmashrita Vrana* (Ulcer in Vital Point), *Kledayukta vrana* (Moist wound), *Sookshma Mukayukta vrana* (Ulcer with small opening), *Gambhira rujayukta Vrana* (Deep-seated Painful ulcer).⁽⁵⁾ Studies have found that *Jatyadi Ghrita* promotes early wound contraction and re-epithelialisation of wounds and has got anti-inflammatory effect⁽⁶⁾.

Acharya Sushruta also mentions *Bandha* (Bandage) for healing purpose⁽⁷⁾ in different forms like *Vikeshika*, *Kavalika*, *Plota*, *Pichu*.⁽⁸⁾ Among these *Vikeshika* is the cloth which contains *Tila kalka Madhu* and *Ghrita*.⁽⁹⁾ But clinically usage of these bandaging materials is very limited. Commonly practised gauze dressing may be disruptive for wound healing as it gets adhered to the wound bed hampering the breathing of the wound and causing damage to granulation tissue during its removal. These factors may be responsible for delayed wound healing. Also adopting the rules of *Vikeshika Oushadha* mentioned by *Acharya Sushruta* while doing conventional dressing may not be possible all the time. In modern

science, there are plenty of sterilized, packed dressing materials available in the market. But nowhere Ayurvedic ready to use dressing material is manufactured or made available in the market. Hence adopting good advancements from other science without altering the basic principle is always acceptable. Upgradation and Standardization of dressing methodology like the quality of gauze material, size of dressing material which respects the wound healing is need of the hour.

Keeping these into consideration, *Jatyadi Ghrita Vikeshika* using leno weave non-absorbent gauze impregnated with *Jatyadi Ghrita* with standard size has been prepared, sterilized and sealed in a pack which is an innovative contribution in Ayurvedic method of dressing. So, in this study, a unique at-

tempt has been made to compare the results of ***Jatyadi Ghrita Vikeshika* and *Sofra tulle Dressing* in the management of *Dushtavrana* w.s.r. to Venous Ulcer.**

OBJECTIVES OF THE STUDY: To compare the efficacy of *Jatyadi Ghrita Vikeshika* and *Sofratulle* dressing in the management of *Dushta vrana* with special reference to Venous ulcer.

MATERIALS & METHODS:

Drug Source: Required raw materials for *Jatyadi ghrita* were collected from GMP certified company. Necessary processing of raw materials and preparation of *Jatyadi Ghrita* done in the Postgraduate Dept. of *Rasashastra* and *Bhaishajya Kalpana*, Taranath Govt. Ayurvedic Medical College, Ballari.

Drug Preparation:

<i>Jatipatra</i>	1/4 th part
<i>Nimbapatra</i>	1/4 th part
<i>Patolapatra</i>	1 /4 th part
<i>Katuka</i>	1/4 th part
<i>Darvi</i>	1/4 th part
<i>Nisha</i>	1/4 th part
<i>Sariva</i>	1/4 th part
<i>Manjishta</i>	1/4 th part
<i>Ushira</i>	1/4 th part
<i>Sikta</i>	1/4 th Part
<i>ShuddhaTuthha</i>	1/4 th part
<i>Madhuka</i>	1/4 th part
<i>Karanjabeeja</i>	1/4 th part
<i>Ghrita</i>	4 parts
<i>Jala</i>	16 parts

Jatyadi Ghrita was prepared as per the classical reference of *Ghrita paka kalpana*

Preparation of *Jatyadi Ghrita Vikeshika*

1. Sterile clean leno-weave fabric gauze of 10x10 cm size was taken.
2. It was impregnated with *Jatyadi Ghrita* uniformly
3. Thus prepared *Vikeshika* will be kept in between layers of silver foil and butter paper in order to prevent leakage of *Ghrita*.
4. Then it is kept inside a silver foil pouch, sealed and labelled. Stored in cool temperature. Labelling was

done which contains material used, a medicine used with its manufactured date, expiry date and storage.



Jatyadi Ghrita impregnated vikeshika



Silver foil for placing a gauze



Butter paper over silver foil



Placing Gauze over Butter paper



Sealing of Jathydi Ghrita Vikeshika



Ready to use Jatyadi Ghrita Vikeshika

Clinical Source: A Total of 40 patients who fulfilled the inclusion criteria, of either sex attending the OPD and IPD of *Shalya Tantra*, Taranath Government Ayurvedic Medical College and Hospital, Ballari were randomly selected for the study.

Intervention: Venous ulcer cleaned with Normal saline in both groups. *Jathyadi Ghrita Vikeshika* dressing done in Group A & Sofra-tulle dressing done in Group B.

The dressing was done for 28 days, and observations were noted on the 7th, 14th, 21st, 28th day and follow up after 1 week.

Inclusion Criteria: Patients with the age group of 20-70 years, Patients having the features of Venous ulcer i.e., Pain, Itching, swelling, Foul smell, Serous or serosanguineous discharge, Venous ulceration.

Exclusion Criteria: Patients suffering from systemic illnesses like DM, HTN, TB, HIV, Leprosy, Syphilis. Patients suffering from gangrene, burns, sepsis.

Assessment Criteria: The patient's response was assessed based on subjective and objective parameters.

Table 1: Subjective Parameters

Grade	Pain	Itching	Foul smell	Swelling
0	No pain	Absent	Absent	Absent
1	Mild pain (no need of analgesics)	Present	Present	Present
2	Moderate pain (subsides with analgesics)			
3	Severe pain (persists with analgesics)			

Table 2: Objective Parameters

Grade	Border	Floor	Discharge	Size
0	well defined	Wound healed	No discharge	Wound healed
1	With an advanced border of epithelium	Evenly spread pink granulation tissue	Mild discharge (wets 2x2 cm gauze piece/day)	0-5 cm
2	No advancing border of epithelium	Evenly spread beefy red granulation tissue	Moderate discharge (wets 2x2 cm 2 gauzes per day)	5-10 cm
3	Not Well defined	No healthy granulation tissue or covered with slough	Severe discharge (wets 2x2 cm>2 gauzes per day.	10-15cm
4	-	-	-	>15 cm

OBSERVATIONS: The present study revealed that incidence of dushta vrana was more common in 41-50 years i. e 32.5%. Maximum patients were male i.e., 90%. 57.5% of workers were moderate workers. 45% of patients were having a history of varicose veins rest 55% did not have varicose veins. 77.5% had 3 years of ulcer history. 67.5% of venous ulcers were in the left lower limb and specifically, 27.5% were in the medial aspect.47.5 % of ulcers had an oval shape. 45% of patients had no advancing border of epithelium in ulcer margin.60% of ulcers

had slough in the floor. 40% of ulcers had a mild discharge.

RESULTS: The assessment parameters like Pain, Size, Margin, Floor & discharge were subjected to **Wilcoxon Signed Rank Test** to compare the mean rank within the group and the **Mann Whitney U test** to compare the Mean Rank difference Values between the groups & draw the conclusion. The assessment parameters like Itching, Foul smell, Swelling were subjected to McNemar’s test within the group and **Fisher’s exact test** between the groups.

Table 3: Effect of Treatments on assessment parameters in Group A:

Group A	BT	AT	%	S. D	WSRT Value	Z-Value	P-Value
Pain	1.3	0.4	69.23	0.718	-138.00	-3.499	<0.001
Itching	0.85	0	100	--	--	--	<0.001
Foul smell	0.35	0.05	95	--	--	--	<0.031
Size	1.3	0.65	50	0.489	-91.00	-3.606	<0.001
Swelling	0.35	0	100	--	--	--	<0.01
Margin	2.1	0.55	73.80	0.826	-153.00	-3.782	<0.001
Floor	2.45	0.65	73.46	1.152	-136.00	-3.573	<0.001
Discharge	1.9	0.7	63.15	1.105	-105.00	-3.376	<0.001

Table 4: Effect of Treatments on assessment parameters in Group B:

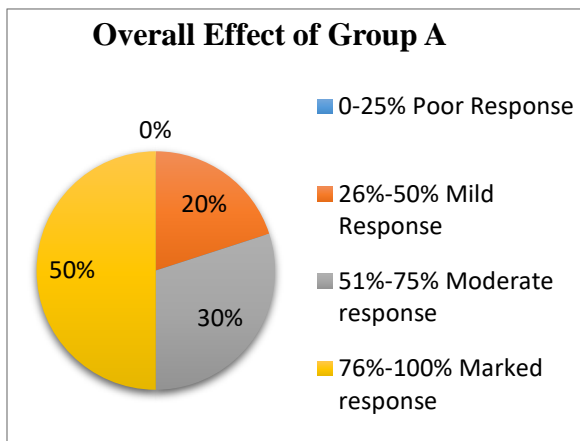
Group B	BT	AT	%	S. D	WSRT Value	Z-Value	P-Value
Pain	1.1	0.15	86.36	0.510	-153.00	-3.945	<0.001
Itching	0.85	0	100	--	--	--	<0.001
Foul smell	0.35	0.05	95	--	--	--	<0.004
Size	1.35	0.9	33.33	0.510	-45.00	-3.00	<0.004
Swelling	0.35	0	100	--	--	--	<0.125
Margin	2.5	1.00	60	0.761	-190.00	-3.912	<0.001
Floor	2.5	1.15	54	1.040	-160.00	-3.565	<0.001
Discharge	1.85	1.10	40.54	0.550	-105.00	-3.638	<0.001

Table 5: Comparative Effect of treatment on Pain in-between group A and Group B

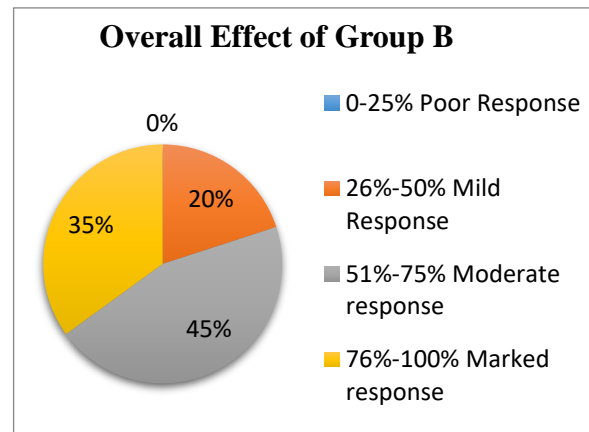
PARAMETER	GROUP A	GROUP B	T- VALUE	P-VALUE	REMARKS
Pain	1.000	1.000	418.500	0.782	N. S
Size	1.000	0.000	450.000	0.215	N. S
Margin	2.000	1.000	428.500	0.597	N. S
Floor	2.000	1.000	451.500	0.249	N. S
Discharge	1.000	1.000	454.000	0.199	N. S

Table 6: Effect of Treatment

Class	Grading	No of patients in Group A	No of patients in Group B
0-25%	Poor Response	0	0
26%-50%	Mild Response	4	4
51%-75%	Moderate Response	6	9
76%-100%	Marked Response	10	7



Graph 1: Results on Group A



Graph 2: Results on Group B

Figure 1-3: Showing result in Group A



BT



During Treatment



AT

Figure 4-6: Showing result in Group B



DISCUSSION

The ability of an organism to repair or regenerate tissue is a definite advantage for surviving. Wound healing is a complex mechanism that includes highly organized cellular, humoral and molecular mechanisms. Any interruption in this natural process will end up in abnormal wound healing. In modern science, chronic non-healing ulcers like venous ulcers are a challenge to treat. In the *Chikitsa* of *Vrana*, *Acharya Sushruta* explains 60 *Upakramas*

Effect of therapies on *Dushtavrana*:

Effect on Pain: Sofra tulle dressing has a better effect than *Jatyadi Ghrita VSikeshika* dressing in terms of pain. It may be because of the bactericidal effect of framycetin which helped in the reduction of infection.

Effect on Margin: *Jatyadi Ghrita Vikeshika* dressing had a better effect than Sofra tulle dressing in terms of margin. It may be because studies have

shown that *Jatyadi Ghrita* promotes early epithelialization.

Effect on Floor: *Jatyadi Ghrita Vikeshika* dressing had a better effect than Sofra tulle dressing in terms of the floor. It may be because of anti-microbial and autolytic debridement of linoleic acid present in *Jatyadi ghrita* which promotes clears off slough & promotes the growth of granulation tissue formation.

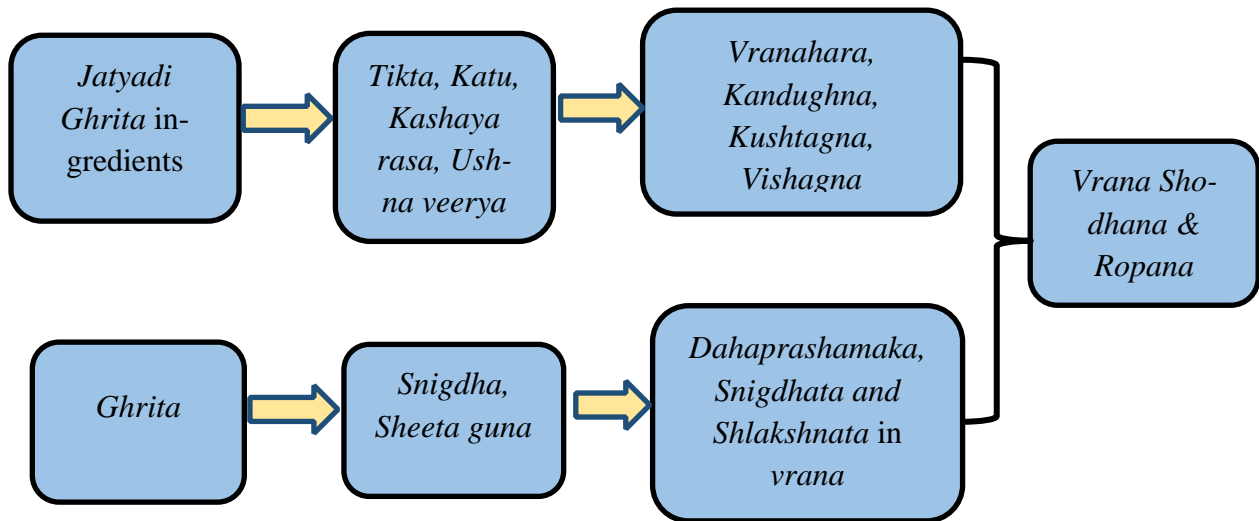
Effect on Discharge: *Jatyadi Ghrita Vikeshika* dressing had a better effect than Sofra tulle dressing in terms of reducing discharge. It may be because of *Rooksha guna* of *Tikta, katu, Kashaya rasa & Ushna veerya* of ingredients of *Jatyadi Ghrita* that reduces the *Srava* occurred due to *Kapha dosha*.

Discussion on the mode of action of drug:

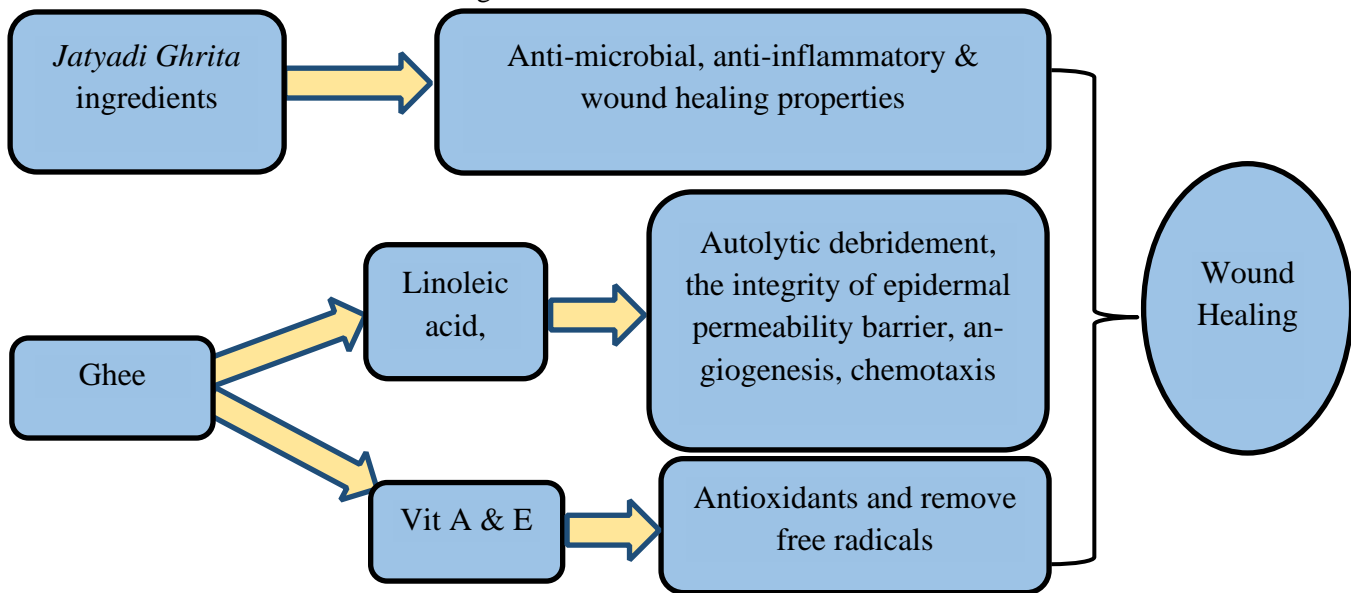
Jatyadi Ghrita mentioned by *Acharya Vagbhata* has both *Shodhana* and *Ropana* properties.

Sorfratulle is an antibiotic tulle dressing used for potentially infected ulcers and burns.

Flow-chart: Mode of action according to Ayurveda



Flow-chart: Mode of action according to Modern



CONCLUSION

Management of chronic venous ulcers is tedious and time-consuming. Acharya Sushruta considering their difficult management has explained Shashti upakramas. *Jatyadi Ghrita* is one such medication, in which almost all the ingredients have *Tikta katu rasa*, *Ushna veerya* which helps in *Shodhana* of *Vrana*. It also has properties like *Krimighna*, *Kandughna* & *Kushtagnata*. The chemical composition of ingredients consists of antimicrobial, antiseptic, anti-inflammatory properties. Hence it is best for chronic

non-healing ulcers. Keeping the drawbacks of conventional dressing in mind, sterilized, well packed *Jatyadi Ghrita Vikeshika* was prepared and used for topical application.

- In Group A: Relief from Pain was 69.23%, Itching was 100%, Foul smell was 95%, Size reduction was 50%, Relief from swelling was 100%, Improvement in Margin was 73.80%, Improvement in Floor was 73.46% and Reduction in Discharge was 63.15%.

- In Group B: Relief from Pain was 86.36%, Itching was 100%, Foul smell was 95%, Size reduction was 33.33%, Relief from swelling was 90%, Improvement in Margin was 60%, Improvement in Floor was 54% and Reduction in Discharge was 40.54%.
- Overall relief in Group A is 78% and in Group B 70.5%
- On observation, Sofratulle was found to be more effective in subsiding pain whereas *Jatyadi ghrita Vikeshika* was found more effective in reducing itching, swelling, foul smell, size of the ulcer, Margin & floor of ulcer and discharge from the wound. Epithelialization and granulation tissue formation in *Jatyadi Ghrita Vikeshika* group was faster than the Sofratulle group. Hence *Jatyadi Ghrita* dressing is found to be more efficacious than Sofratulle Dressing in the management of *Dushtavrana W.S.R. to Venous ulcer*.

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