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CLINICAL STUDY ON EFFICACY OF *YASTIMADHU TAILA* IN THE MANAGEMENT OF *DUSTA VRANA* (NON HEALING ULCER)

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ABSTRACT

Introduction: *Vrana* is a common and frequently encountered problem faced in surgical practice. The presence of *Dusta 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 *Dusta Vrana* into a *Shuddha Vrana*. Once the *Vrana* becomes *Shuddha*, *Ropana* of the *Vrana* will start. **Methodology**: Objective of the study was to evaluate the clinical efficacy of *Yastimadhu taila* in *Dusta Vrana*.Clinically diagnosed 40 Patients of *Dusta Vrana* were randomly divided into two groups, each consisting of 20 Patients. Group A were treated with the *Yastimadhu Taila* and Group B (Control Group) was treated by Conventional Method. **Result**: The results observed was based on the relief obtained on the subjective and objective parameters taken for consideration for this study viz, Pain, itching, Discharge, Smell, Colour, Epithelization, Granulation tissue and wound size were found highly significantly ($P<0.05$). **Discussion and Conclusion**: On the basis of assessment criteria and overall result of treatment, the patients of *Yastimadhu Taila* group showed better results when compared to Conventional Treatment. Even statistically there is significant difference between the two groups, hence *Yastimadhu taila* effective when compared to Conventional Treatment.

KEYWORDS: *Dushta Vrana*, Non Healing Ulcer, *Yastimadhu Taila.*

INTRODUCTION

One of the significant subfields of Ayurveda, *Shalya Tantra*, describes surgical and parasurgical methods for treating a range of surgical conditions. One of them, *Dushta Vrana*, has been governed by humans since the dawn of civilization. As a result, Vrana is described in the majority of human health literature. The Vedic literature has the earliest mention of *Vrana* in relation to injuries. The most significant and much discussed chapter in *Sushruta's Shalya Tantra* is *Vrana*. Sushruta is renowned for his superior surgical skills. With reference to *Shatkriyakala*, Types, Subtypes, *Sasti Upakrama* (60 processes for managing *Vrana*), *Vrana Upadrava* (complications), *Saadhaya - Asaadhatya* (prognosis), *Vranavastu*,[1] and other topics, he has provided a very accurate and scientific description of *Vrana*.[2] He has said unequivocally that a *Vrana* (wound) has a *Vranavastu* (scar) that remains after full healing and leaves a permanent Scar.[3] A wound is an injury to the body (as from violence, accident, or surgery) that typically involves laceration or breaking of a membrane (such as the skin) and usually damage to underlying tissues.[4] Despite being a natural process, wound healing is impacted by a number of systemic factors, including debris, vascularity, growth factors, and microorganisms. Several Ayurvedic classics have detailed how to control *Dushta Vrana*.[5] For millennia, many formulas have been in use. Among these, the Susruta Samhita's description of *Yastimadhu Taila*[6] was employed. The study aims to improve our fundamental knowledge of wound healing at the molecular and cellular levels, as well as the processes involved in cellular repair and wound healing. This knowledge will be used to develop innovative treatments that reduce the negative effects of wound healing. Novel treatments of this kind may improve cellular repair, encourage quick wound closure, reduce hypertrophic scarring, or manage scar contracture.

AIMS AND OBJECTIVES

Aim

To compare the efficacy of *YASTIMADHU TAILA* and 5% povidone iodine solution in the management of *DUSTA VRANA*

Objectives

1. To study the effects of *YASTIMADHU TAILA.*
2. To compare the efficacy of *YASTIMADHU TAILA* with 5% povidone iodine solution in the management of *DUSTA VRANA.*

3. To study the *Ropana* Properties of *Yastimadhu Taila* in the management of *Dusta Vrana*
4. To study in details about *Dusta Vrana* in Ayurvedic classics.

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*, Govt Ayurvedic College & Hospital, Guwahati and subjected to clinical trial. The methodoloy of clinical trial and observations are as follows.

Method of collection of data

Patient suffering from *Dushta Vrana* in the age group of 16 -70 years are selected randomly and are subjected to clinical trial. The selected patients were divided into two groups of 20 each.

Group A: Sterile gauze impregnated with *Yastimadhu Taila* is applied externally after cleaning the wound surface. **Group B**: Sterile gauze impregnated with povidone iodine Solution is applied externally after cleaning the wound surface. The signs and symptoms were recorded in the proforma designed especially for this study.

The ingredients of *Yastimadhu Taila* are as follows[7]

1. *Murchita tila Taila(Prakshepa Dravya – Haritaki, Vibhitaki, Amalaki, Manjishta, Haridra, Nal, Lodhra, Musta, Vata , Ketaki, Hrivera, Tila)*
2. *Yastimadhu Kwath*
3. *Kalka Dravya- Yastimadhu Kalka*

Inclusion criteria

- Patient age group: 16-70 Yr
- Patients of either sex will be selected for the study.
- Patient with clinical signs and symptoms of *Dusta Vrana* (chronic non healing ulcer).

Exclusion criteria

- Patients with bleeding disorders will be excluded.
- Wound with other disorders for example Tuberculosis, CLD, HIV positive cases, HBsAg positive cases, HCV positive malignant, lepromatous, osteomyelitis, arterial anomaly, extensive cellulitis cases and cases of other systemic diseases will be excluded from this study.

- Severe Anemia, burn.
- Uncontrolled T2DM
- Pregnancy

Investigation

- Blood Routine Test, BT, CT
- Blood Sugar- Fasting & Post prandial
- Viral Profile
- X ray (Optional)
- Swab Culture (Optional)

The method of dressing

Dushta Vrana covered with slough, necrosed tissue, thick discharge; unhealthy granulations etc. were cleaned by adopting the suitable debridement technique. After using Normal saline (0.9%Nacl) for cleaning the wound, the local application of trial drug i.e. Sterile gauze impregnated with *Yastimadhu Taila* is applied externally and bandaging was done in the trial group.

In the control group, Povidone Iodine solution was used as a local wound care agent using the same method as that of trial drug and and bandaging was done.

Parameters of Assessment

Subjective parameters:		**Objective parameters:**	
Pain (Ruja)	No pain 0 Mild or bearable 1 Moderate 2 Severe 3	**Size (cm^3) (length x breath x depth):**	Complete reduction 0 Upto 80% reduction 1 Upto 40% reduction 2 No reduction 3
Itching (Kandu)	No itching 0 Mild itching 1 Moderate itching 2 Severe itching 3	**Epithalization**	Complete epithalization (100%)-0 Moderate (>50%)- 1 Partial (25-50%) - 2 No epithalization- 3
Discharge (Srava)	No discharge- 0 Scanty or little discharge- 1 Seropurulent discharge – 2 Profuse purulent discharge with slough – 3	**Healthy/unhealthy granulation tissue**	Red healthy granulation tissue- 0 Unhealthy granulation tissue without slough- 1 Unhealthy granulation tissue with slough- 2 Unhealthy granulation tissue with slough and surrounding edama- 3
Smell (Vrana Gandha)	No Smell - 0 Mild smell - 1 Moderate smell – 2	**Discharge (Srava)**	No discharge- 0 Scanty or little discharge- 1

	Severe Smell – 3		Seropurulent discharge – 2 Profuse purulent discharge with slough – 3
Colour (Vrana Varna)	Normal skin Colour -0 Pinkish- 1 Red - 2 Pale – 3		

Follow up period

The patients have been followed up at the interval of 7 days for observation and collection of data. The data has been recorded in the case record form which has been prepared specially for this purpose for assessment of results.

Duration of treatment

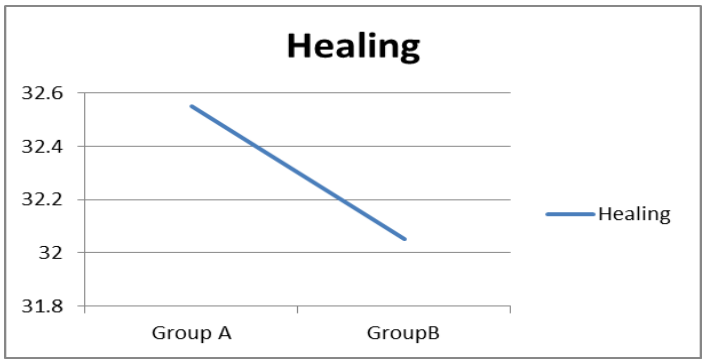
The patients were treated for a period of maximum 28 days or complete healing, which one is earlier.

OBSERVATIONS AND RESULTS

Paired t Test

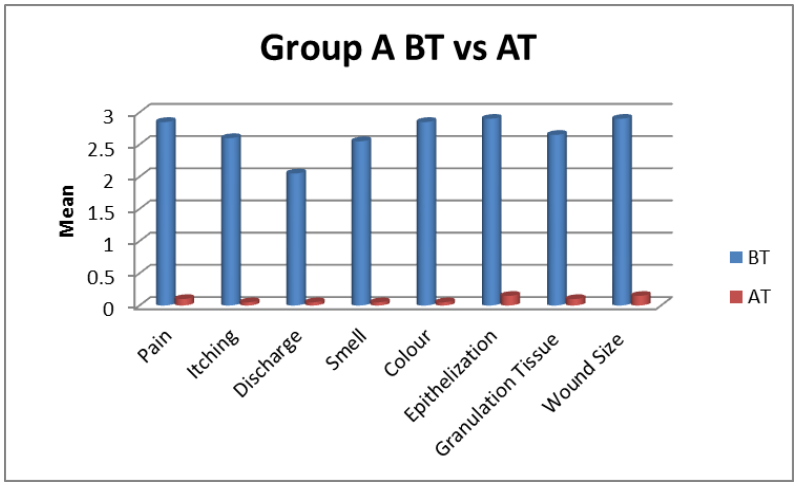
Healing

	$\bar{X}A \pm SD$	$\bar{X}B \pm SD$	SED	T19	p	R
Healing	32.55± 9.96	32.05± 11.58	2.239	0.223	0.825	Statistically not Significant



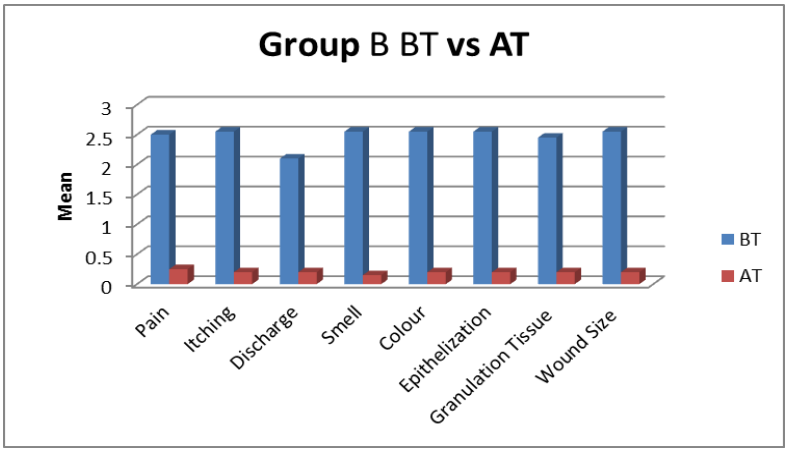
Group A

	$\bar{X}A,BT$	$\bar{X}A,AT$	SED	T19	P	R
Pain	2.85± 0.49	0.10± 0.31	0.123	22.355	0.0001	Extremely Significant
Itching	2.60 ± 0.50	0.05± 0.22	0.1114	22.342		
Discharge	2.05±0.39	0.05 + 0.22	0.103	19.493		
Smell	2.55± 0.60	0.05 ± 0.22	0.136	18.419		
Colour	2.85± 0.37	0.05± 0.22	0.092	30.592		
Epithelization	2.90 ±0.31	0.15 ± 0.37	0.099	27.682		
Granulation Tissue	2.65± 0.49	0.10 ± 0.31	0.114	22.342		
Wound Size	2.90 ±0.31	0.15 ± 0.37	0.099	27.682		



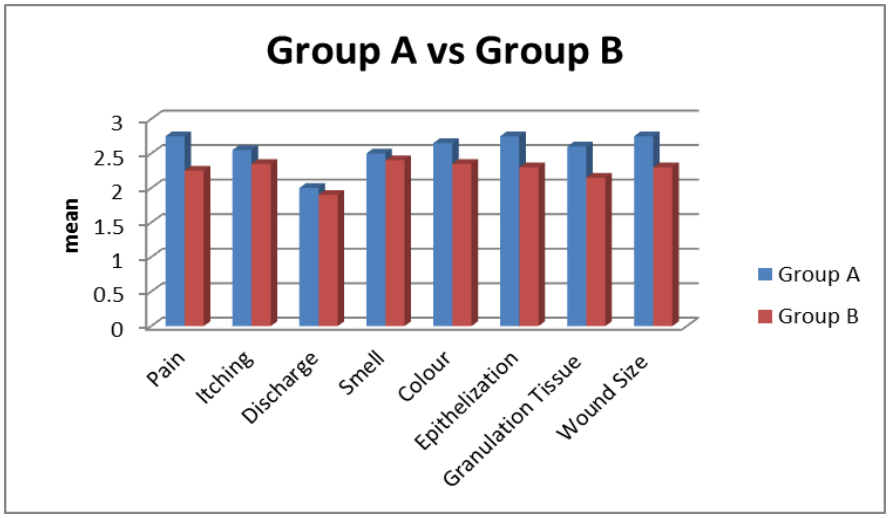
Group B

	X̄B,BT	X̄B,AT	SED	T19	P	R
Pain	2.50 ± 0.61	0.25± 0.44	0.160	14.046	0.0001	Extremely Significant
Itching	2.55± 0.51	0.20± 0.41	0.109	21.476		
Discharge	2.10± 0.55	0.20± 0.41	0.100	19.000		
Smell	2.55± 0.51	0.15 ± 0.37	0.152	15.771		
Colour	2.55 ± 0.51	0.20± 0.41	0.150	15.666		
Epithelization	2.55± 0.51	0.20± 0.41	0.131	17.899		
Granulation Tissue	2.45 ± 0.51	0.20± 0.41	0.143	15.755		
Wound Size	2.55± 0.51	0.20± 0.41	0.131	17.899		



Unpaired t test

	X̄A ± SD	X̄B ± SD	SED	T38	p	R
Pain	2.75 ± 0.55	2.25± 0.72	0.202	2.475	0.0179	Statistically Significant
Itching	2.55± 0.51	2.35 ± 0.49	0.158	1.264	0.2136	Statistically not Significant
Discharge	2.00± 0.46	1.90± 0.45	0.143	0.698	0.489	Statistically not Significant
Smell	2.50± 0.61	2.40± 0.60	0.191	0.524	0.602	Statistically not Significant
Colour	2.65± 0.49	2.35± 0.67	0.186	1.615	0.114	Not Statistically Significant
Epithelization	2.75± 0.44	2.30± 0.66	0.177	2.536	0.015	Statistically Significant
Granulation Tissue	2.60± 0.50	2.15 ± 0.67	0.187	2.400	0.0214	Statistically Significant
Wound Size	2.75± 0.44	2.30± 0.66	0.177	2.536	0.015	Statistically Significant



DISCUSSION

Pain

Group A: All the patients were complaining of pain before treatment. The mean (pain) score was 2.85 and after treatment it was reduced to 0.10. Only two patients had mild pain at the end of the treatment. Among the types of *Dusta Vrana i.e. Vaata-Pittaja and Vaata-Kaphaja*, reduction of pain was observed in Group A which is statistically significant($p<0.05$).

Group B: All the patients were complaining of pain before treatment. The mean (pain) was 2.50 and after treatment it was reduced to 0.25. At the end of the treatment 5 patients had mild pain.

Itching

Group A: All the patients were complaining of itching before treatment. The mean score was 2.60 and after treatment it was reduced to 0.05. Only 1 patient had mild itching at the end of the treatment. Reduction of itching was observed in both the group without any statistically significant variation (p-0.2136).

Group B: All the patients were complaining of pain before treatment. The mean was 2.55 and after treatment it was reduced to 0.20. At the end of the treatment 4 patients had mild pain.

Discharge

Group A: All the patients were complaining of discharge before treatment. The mean score was 2.05 and after treatment it was reduced to 0.05. Only 2 patient had mild discharge at the end of the treatment. Reduction of discharge was observed in both the group without any statistically significant variation (p-0.489).

Group B: All the patients were complaining of discharge before treatment. The mean was 2.10 and after treatment it was reduced to 0.20. At the end of the treatment 7 patients had mild pain.

Smell

Group A: Before treatment all patients were having smell from the ulcer and the mean score was 2.55 and after treatment smell was reduced completely in 17 patients and the mean score was 0.05.

Group B: Before treatment all patients were having smell from the ulcer and the mean score was 2.55 and after treatment in 17 patients smell was reduced completely, in remaining 3 patient it was reduced to grade 1 and the mean score was reduced to 0.15.

Colour

Group A:Before treatment maximum patients were having pale colour wound . The mean score was 2.85 and after treatment it was reduced to 0.05. 16 patients had normal skin colour and rest had pale in colour at the end of the treatment. Change in colour was observed in both the group without any statistically significant variation (p-0.114).

Group B: Before treatment maximum patients were having pale colour wound . The mean score was 2.55 and after treatment it was reduced to 0.20. 16 patient had normal skin colour and rest had pale in colour at the end of the treatment.

Epithalalization

Group A:Before treatment maximum patients were having without epithelalization . The mean score was 2.90 and after treatment it was reduced to 015. 17 patients had completed epithelalization and rest had moderate epithelalization at the end of the treatment. Epithelalization was good observed in Group A which is statistically significant($p<0.05$)

Group B: Before treatment maximum patients were having without epithelalization The mean score was 2.55 and after treatment it was reduced to 0.20. 16 patients had completed epithelalization and rest had moderate epithelalization at the end of the treatment.

Granulation Tissue

Group A:Before treatment maximum patients were having with Unhealthy granulation tissue with slough and surrounding edama. The mean score was 2.65 and after treatment it was reduced to 010. 18 patients had Red healthy granulation tissue and rest had Unhealthy

granulation tissue without slough at the end of the treatment. Healthy Granulation tissue was good observed in Group A which is statistically significant($p<0.05$).

Group B: Before treatment maximum patients were having Unhealthy granulation tissue with slough and surrounding edama .The mean score was 2.45 and after treatment it was reduced to 0.20. 12 patients had Red healthy granulation tissue and rest had Unhealthy granulation tissue without slough at the end of the treatment.

Wound Size

Out of 20 patients, ulcer was healed completely in 17 patients and in remaining 3patients marked reduction was noticed. The mean score was 2.90 and after treatment it was reduced to 015. Good reduction of size was observed in Group A which is statistically significant($p<0.05$).

Group B: Out of 20 patients, ulcer was healed completely in 16 patients and in remaining 4 patients marked reduction was noticed. The mean score was 2.90 and after treatment it was reduced to 015.

Probable action of *Yastimadhu Taila*

1. *Dosha Shamana: Dusta Vrana* is caused by vitiation of *Vata, Pitta and Kapha. Yashtimadhu Taila* pacifies *Pitta* and *Vata* due to its *Madhura rasa, Sheeta veerya, and Snigdha guna*.
2. *Vrana Shodhana and Ropana: Yashtimadhu* has *Shodhana* and *Ropana* properties and to remove slough and unhealthy tissues and promotes granulation and epithelialization of the wound.
3. *Lekhana* and *Twachya Karma:* The oil form aids in gentle scraping of unhealthy tissue and supports healthy skin regeneration. *Twachya* property helps in restoring skin texture and color.
4. *Shotha Hara:* Reduces inflammation and swelling of the wound due to its *Pitta* and *Rakta*-pacifying effects.
5. *Vedana Sthapana:* Provides relief from pain, which is often present in chronic wounds, due to its *Vata*-pacifying nature.
6. *Krimighna* (Antimicrobial): Glycyrrhizin exhibits corticosteroid-like effects, reducing pro-inflammatory cytokines. Acts against microbial colonization, commonly present in chronic wounds and helps prevent secondary infection.

7. *Tila Taila* (Sesame Oil) Actions: *Snigdha* (unctuous) and *Sookshma* (penetrating) properties carries the active principles deep into tissues. Rich in antioxidants (sesamin, vitamin E) and promotes tissue repair and counteracts oxidative stress in wound site.

Enhances *Vata-Kapha shamana*, which is essential in chronic and non-healing ulcers

CONCLUSION

Both the groups have shown highly significant effect in controlling the symptoms of *Dusta Vrana* such as pain (*Ruja*), itching (*Kandu*), discharge (*Srava*), smell (Gandha), Colour (*Varna*), Epithelalization, Granulation Tissue and wound size (*Akriti*) as a local wound care agent. When the differences observed between the groups, the trial drug i.e. *Yastimadhu Taila* is found to be more effective in controlling pain (*Ruja*), Epithelalization, Granulation Tissue and wound size (*Akriti*) than povidone iodine. But the differences were not significant in reducing itching (*Kandu*), discharge (*Srava*), smell (Gandha), Colour(Varna), and suggest that the trial drug has similar property with control drug. It was found that the healing time was significantly lower in trial group A compared to group B. The mean healing time was 33.67 days in trial group whereas 35.43 days in control group. It is having more of *Ropana* qualities when compared to *Shodhana*. Thus it can be concluded that Yastimadhu Taila application externally is more effective in *Dushta Vrana* by their *Shodhana, Ropana, Vedana Shamaka* properties.

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