



## A CLINICAL STUDY TO EVALUATE THE ANTISEPTIC AND BACTERICIDAL EFFECT OF YASHTIMADHU GHRITA IN NON-INFECTED SURGICAL WOUNDS

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### ABSTRACT :

Some of the most challenging Post operative complication include Abnormal wound healing (non healing, delayed healing), a wound infection, Post surgical bleeding from a wound. symptoms of Post operative wound complication depend on type of complication. It may includes, swelling, redness, tenderness, or warmth around wounds. Additional symptoms may include bleeding or drainage from wound, or separation of wound edges. Standard treatment includes Antibiotic coverage and local wound care, including packing. Failure of primary treatment leads to further surgery with skin flap and free grafts. To overcome all problems mentioned above and to prevent the adverse effect of Allopathic drugs, and it is a ray of hope from Ayurveda the present study is planned to evolve an effective treatment by Ayurvedic approach in the Post operative wound management. Hence in this study an attempt is made to evaluate the efficacy of *Yashtimadhu ghrita* as Antiseptic and Bacteriocidal in Post operative wounds, which has *vrana ropana*, *shothgna* action apart from properties like *daha samana*, *shulahara*, *rakta sthambaka*.he trial drug proved statistically significant in early wound healing in minor surgical wounds. The results revealed that the estimated treatment shown significant improvement ( $p < 0.01$ ) in all cardinal sign and symptoms. However the statistical observations reveals that *Yashtimadhu ghrita* was found efficacious in wound healing phenomenon. The present study proved that the ancient management is safe, easily available devoid of complications and has better acceptability.

**Key words:** *Sushrut Samhita*, Post Operated Wound management, *Vrana*, *Yashtimadhu Ghrita*

**INTRODUCTION:** Some of the most challenging Post operative complication include abnormal wound healing (non healing, delayed healing), a wound infection, bleeding from a wound post surgery. Treatment for post operative wound complications depends on type of complication. It may include wound care, Antibiotics and Surgery. Standard treatment include Antibiotic coverage and local wound care, including packing.

Failure of primary treatment leads to further surgery with skin flap and free grafts. To overcome this severe pain and infection in the Post operative phrase the surgeons do prefer Opoids, NSAIDs and Heavy Antibiotics. Both of these have got adverse effects like respiratory depression, vomiting, drug dependency etc. Prolonged administration of these may suppress the symptom but causes gastric irritation. Which increase patients morbidity,

inpatient time and financial costs. To overcome all problems mentioned above and to prevent the adverse effect of Allopathic drugs; it is a ray of hope from Ayurveda the present study is planned to evolve an effective treatment by Ayurvedic approach in the Post operative wound management. Hence in this study an attempt is made with A clinical study to evaluate the Antiseptic and Bactericidal effect of *Yashtimadhu ghrita* which has *vraha ropana, shothgna* action apart from properties like *daha samana, shulahara, rakta sthambaka*.<sup>1</sup>

**Aim of Study:** A clinical study to see the efficacy of ‘*yashtimadhu ghrita*’ as antiseptic and bactericidal in non infected surgical wounds.

**Type of Study:** Open non-comparative clinical study

**Source of Data:** 30 Patients for minor post operative management were selected randomly from the Shalya Tantra- IPD of D. Y. Patil Ayurvedic hospital according to the selection criteria.

**MATERIALS AND METHODS:** In the selected patients local application of *yashtimadhu ghrita* was done daily. Changes in the Edges of wound, colour of skin surrounding the wound, discharge and tenderness shall be observed on 1<sup>st</sup> day, 3<sup>rd</sup> day, 5<sup>th</sup> day, 7<sup>th</sup> day and 9<sup>th</sup> day. The raw material like *Yashtimadhu* was collected from local ayurvedic medicine store & Go-

**Gradations of parameters:**

**Edges:**

Grade	Observation
0	Healed
1	Indistinct
2	Distinct
3	Well defined

**Table: 1 Gradation of edges of wound**

*ghrita* was collected from local market. Its identification & authentication was done from *Dravyaguna* department. The drug were prepared according to textual reference in *Rasa shastra and Bhaishajya Kalpana* Department of D. Y. Patil school of ayurveda. & prepared *Yashtimadhu ghrita* standerdization was done from Ancrome laboratory, mulund (w).

**Inclusion criteria:**

- 1) All Minor post-operative surgical wounds
- 2) Age- 20-60years
- 3) Sex- Irrespective of sex
- 4) Who will undergo written consent

**Exclusion criteria:**

- 1) Age below 20 and above 60
- 2) Systemic disease like TB/ DM/ HTN
- 3) Leprosy
- 4) All dushta vana
- 5) All major & abdominal surgeries
- 6) Serological disease like HIV, HBsAg etc.
- 7) Anaemia
- 8) Coagulative disorders

**Diagnostic Criteria:**

All Minor post operated wounds were selected for this trial.

**Assessment Criteria:**

Criteria of assessment are based on Parameters :Edges ,Color of skin surrounding the wound ,Discharge Tenderness

**Colour:**

Grade	Observation
0	Pink
1	Bright red
2	White/grey pallor
3	Dark red / purple
4	Black

**Table: 2 Gradation of colour of surrounding skin of wound**

**Discharge:**

Grade	Observation
0	None
1	Bloody
2	Serosanguinous
3	Serous
4	Purulent

**Table: 3 Gradation of discharge from wound**

**Tenderness:**

Grade	Observation
0	No tenderness
1	Tenderness on deep palpation
2	Tenderness on moderate pressure
3	Tenderness even on touch

**Table: 4 Gradation of tenderness around the wound**

**OBSERVATIONS AND RESULTS:**

On observation it has been found that, as the P value <0.001. Hence, study groups have statistically highly significant efficacy for the parameter edges of wound.

Edges	Before treatment		After treatment		Wilcoxon Signed Ranks Test	P
	Mean score	Sd	Mean score	Sd		
Trial	1.33	0.4795	0.06	0.2537		<0.001 <b>HS</b>

**Table no:5 Showing Statistical Analysis of edges of wound B.T. and A.T.**

On observation it has been found that, as the P value <0.001. Hence, study groups have statistically highly significant efficacy for the parameter colour of skin surrounding the wound.

Colour	Before treatment		After treatment		Wilcoxon Signed Ranks Test	P
	Mean score	Sd	Mean score	Sd		
Trial	1.46	0.7303	0.13	0.3457		<0.001 <b>HS</b>

**Table no: 6 Showing Statistical Analysis of colour of skin surrounding the wound B.T. and A.T.**

On observation it has been found that, as the P value <0.001. Hence, study groups have statistically highly significant efficacy for the parameter discharge from wound.

Discharge	Before treatment		After treatment		Wilcoxon Signed Ranks Test	P
	Mean score	Sd	Mean score	Sd		
Trial	1.66	0.4795	0.1	0.3051		<0.001 <b>HS</b>

**Table no:7 Showing Statistical Analysis of discharge from wound B.T.and A.T.**

On observation it has been found that, as the P value <0.001. Hence, study groups have statistically highly significant efficacy for the parameter tenderness.

Tenderness	Before treatment		After treatment		Wilcoxon Signed Ranks Test	P
	Mean score	Sd	Mean score	Sd		
Trial	2.5	0.5085	0.23	0.4302		<0.001 <b>HS</b>

**Table no:8 Showing Statistical Analysis of tenderness B.T. and A.T.**

**RESULT:** This present study reveal that, Complete wound healing was observed in 93.33% patients.

**DISCUSSION:** Several recent publications show that the management of postoperative wounds is still suboptimal in many institutions, so It is the burning need of the hour to re-evaluate the effectiveness of all the ayurvedic remedies explained by Acharyas in various Ayurvedic texts as ayurveda is expanding so far to improve the quality of life. In the present study 'Yashtimadhu Ghrita' selected for postoperative wound management in minor surgeries. Antiseptic & Bactericidal activity of *Yashtimadhu ghrita* studied in terms of Edges of wound, Color of surrounding skin of wound, Discharge and Tenderness. In this study we have demonstrated the effect of *Yashtimadhu ghrita* on the basis of above said parameters. According to these parameters we assist the condition of wound. After aseptic surgical preparations, post operated wounds were observed for 9 days and The rate of ulcer healing was determined planimetrically at day 1, 3, 5, 7 & 9. It revealed differences in re-epithelialization,

inflammatory cell infiltration and tissue organization. Stiffness and ultimate strength of ulcers treated with *Yashtimadhu ghrita* greater than the esablished treatment. So It can be concluded that *Yashtimadhu ghrita* prevents the wound from getting septic & bacterial infection which is most common in post operated wounds. According to the graphs plotted above, score of all the parameters taken for the assessment of the wound healing are gradually decreases from day 1 to day 9, which shows that the application of *Yashtimadhu Ghrita* has positive healing effect on post operated wounds. *Yashtimadhu* contains glycyrrhizin acid and ammonium salt [GA] which has proven activity of ulcer healing according to some pharmacological articles,<sup>6</sup> the effect of *yashtimadhu* on post operated wounds was tested earlier in previous studies and it gives a positive results as after the use of *yashtimadhu* on post operated wounds, it reduces number of inflammatory cells, and enhanced fibroblasts maturation and tissue alignment and on ulcer healing show increase in the % of ulcer contraction and epithelization.<sup>7</sup>

*Prabhava* – It is special property of a drug which produces actions different from and contrary to, those described to *rasa, guna, virya, vipaka*. This property presents the characteristics and specific action of substances which cannot be explained in terms of pharmacological actions.

**CONCLUSION:** *Yashtimadhu Ghrita* having various properties might be working on factors as discussed in earlier chapters. Thus, *Yashtimadhu Ghrita* work as Antiseptic and Bactericidal on non-infected surgical wounds. More study is necessary on large scale, As this limited study has not covered all aspects, but clinical trial shows encouraging results.

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