

STUDY OF PROPERTIES OF YASHTIMADHUSIDDHAGHRUTA IN SADYOVRANA WITH SPECIAL REFERENCE TO SHASTRAKRUTA VRANA (SURGICAL WOUND)

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ABSTRACT

Introduction: Ayurveda is an applied science and time tested health system with vast scope of trails to prove certain principles as well as therapeutic effects of medicines. In this study Attention is directed to discover an agent which will accelerate wound healing with less side effects. **Aims:** To study the *vedanasthapan* (analgesic) & (*vranaropak*) healing properties of *Yashtimadhu siddha ghruta* in *sadyovrana* with special reference to *shastrakruta vrana* (surgical wound). **Objectives:** 1.To reduces pain in *sadyovrana* [*vedanasthapan*]. 2. To keep the *sadyovrana* in *shuddha awastha* that is prevention from infection & accelerate wound healing. **Material & Methods:** The present study was conducted basically at 3 levels, 1. Conceptual study 2. Standardization & quality control of trial drug 3. Clinical study. **Study Design:** Single blind study with local application of *Yashtimadhu ghruta* was done in patients having *sadyovrana*. Total 50 patients were taken, divided in two groups **Group A-** 25 patients were treated of local application with *Yashtimadhu siddhaghruta*. **Group B-** 25 patients were treated of local application with Povidone Iodine oint. **Observations and Results:** We observed that local application of *Yashtimadhusidha Ghruta* provided less pain, less inflammation, *varnya* (giving proper color to skin like natural) & good healing (*vranaropak*) property. Fewer complications noted in present study.

Keywords: surgical wound *sadyo vrana*, *shastrakruta vrana*, *yashtimaddhusiddha ghruta*, wound healing.

INTRODUCTION

SADYO VRANA is mostly occurring due to accidental injuries & *shastrakrut* (surgical wound). As we see in today's world the number of major & minor injuries has increased.

(1) *Sushruta Samhita* has given superior position to *vrana*. *Sutrasthan*¹ of this *samhita* shows description of the *vrana* in most of the chapters and *Chikitsa Stha-*

*na*² begins with Chapter for *Vrana*.

(2) *Shalyatantra* explained very clearly that *vrana* is the most significant surgical entity,

Surgery and wound go hand in hand; the wound may be due to some kind of trauma or it by the surgeon's knife.

The aim of treating a wound is to either shorten the time required for healing or to

minimize the undesired consequences. There are many factors responsible to delay the healing process like dead tissues, insufficient blood supply, protein deficiency, diseases like diabetes mellitus, tuberculosis etc

(3) In case of delayed healing. Many investigations and experiments have been carried out in medical science. Analgesics, antibiotics and antiseptics like Povidone iodine, Silver sulphadiazine etc. are in use for the treatment of wound³. These treatment modalities still have their own limitations and side effects.

*Sadyo Vrana*⁴ is in *Shuddha* state for 7 days so; if these *vranas* are treated within 7 days their chances of getting infected are reduced.

(4) According to the ref. *sutrashtan* of *Sushrut Samhita*, in *Shastrakruta vrana*⁵ the pain management can be done by *Yashtimadhu siddhaghrita*, because of the *Rasa virya & vipak* of *yashtimadhu*⁶ are *madhur sheeta madhur* respectively due to above properties of *Yashtimadhu siddhaghrita* is used in *sadyovrana*. According to *Ayurveda Ghruta*⁷ is good *yogavahi* so it enhances the properties of *Yashtimadhu* in *Sadyovrana chikitsa*. The surgical incision also called as a *Sadyovrana*.

AIM & OBJECTIVES

The **aim** of the study is

To study the *vedanasthapan* (analgesic) & (*vranaropak*) healing properties of *Yashtimadhu siddha ghruta* in *sadyovrana* with special reference to *Shastrakruta Vrana*.

The **objectives** are

1. To reduce pain in *sadyovrana* [*vedanasthapan*].
2. To Keep the *sadyovrana* in *shuddha awastha* i.e. prevention from Infection & accelerate wound healing.

MATERIAL & METHODS

Materials & methodology used for the study is as follows,

The present study was conducted basically at 3 levels,

1. Conceptual study
2. Standardization & quality control of trial drug
3. Clinical study

Level I (Conceptual Study)

a. Conceptual review of topic from *Ayurvedic Samhita* was done.

b. References of *Vrana* & description of *yashtimadhu* & *goghruta* were collected & compiled. Study of Wound from modern literature & internet was done with the latest update on the Wound.

Level II (Standardization & quality control of drug)

a) **Collection** of raw material of *Yashtimadhu* was done from the field.

b) **Authentication** of the *Yashtimadhu* was done at botany department, Pune University.

c) **Standardization** of *Yashtimadhu*, *Goghruta* & *Yashtimadhu Ghruta* was done at IDRL Pune.

Level III (Clinical Study)

CLINICAL TRIALS:

Type of study – Single Blind controlled comparative clinical study. -

Group A- 25 patients were treated with L. A. with *Yashtimadhu siddhaghrita*.

Group B- 25 patients were treated with L. A. with Povidone Iodine Oint.

All patients were examined by *Trividha*, *Ashtavidha*, and *dashavidha pariksha*. All investigations were carried out to rule out any systemic disease. Only then all these patients were subjected to this clinical trial.

STUDY DESIGN

Single blind study with *Yashtimadhu Ghruta* was done in patients having *Sadyovrana*. Total 50 patients having *Sadyovrana* (Shastrakruta) were selected randomly irrespective of age, sex & religion from the OPD & IPD of *Shalyatantra* department of Ayurved and general hospital nigdi, Pune, according to inclusion & exclusion criteria.

1. Inclusion criteria—

Patients were selected with clean *shastrakarma*, *shastrakruta vrana* irrespective of age, sex, religion, & socio- economical class.

2. Exclusion criteria—

1. H.I.V. patients. 2. T.B. patients. 3. D.M. patients. 4. Anaemic patients. 5. Infective case

These patients were divided in two groups

Group A- 25 patients were treated with local application by *Yashtimadhu siddhaghruta*.

Group B- 25 patients were treated with local application by Povidone Iodine Ointment.

An informed written consent of all patients included in the study was taken after explaining the risk.

PREPARATION OF YASHTIMADHUSIDDHA GHRUTA:

Snehapak –

In present study *Yashtimadhusiddha goghruta* used. The *Ghruta kalpana* is one of the unique features of Ayurvedic chikitsa called as *sneha kalpana*⁸. *Sharangadhara Samhita* explains the complete manufacturing process.

First one part of *yashtimadhu kalka* was taken & 16 lit. water poured in that. Heat given slowly to the mixture upto the ¼ (means 4 lit) water remained which is called as *kwath* (decoction). Then the decoction (*kwath*) + *yashtimadhu kalka* &

one litre cowghee mixed and heat given slowly (*samagni*) till the water part gets evaporated and only *Yashtimadhusiddha ghruta* was remained.

The end point / stage were decided on following tests.

Snehasiddhi – pariksha

1. *Agni Pariksha* –if *siddha ghruta* is sprinkled over *agni* (flame) it burns without creating any noise.
2. *Fen pariksha* (bubble) – *Fenashanti* i.e. formation of air bubbles in the boiling mixture of *snehapaka* stopped is the end of *ghruta siddhi*
3. *Kalkavarti Pariksha* – when the *ghruta* is fully *siddha* then the *kalka dravya* from the mixture is taken and rolled between two fingers. It acquires a cylindrical shape (*varti*) and is not broken into pieces.
4. *Ishta* (proper) *gandha* (odour), *varna* (colour) and *rasa* (taste) formation take place only after complete *siddhi* of the *ghruta*.

These ingredients are described in details in various *samhita*, *Graanthas*, *Charak*, *Sushruta*, *Vagabhat*, *Sharangdhar*, *Raj Nighantu*, *Dhanwantari Nighantu*, *Yogaratanakar*. In the later period the description is seen in *vanaushadhi chandrodaya* & Dr. Nadkarni's *Indian Materia medica*, A.P.I. & Internet etc.

Povidone Iodine⁹ Ointment

Iodine- Iodine is probably the oldest and the most widely used of the antiseptics. It is

a powerful bactericidal agent and in addition also possesses high sporicidal, fungicidal, amoebicidal. Iodine routinely used for treatment of wounds and abrasions, possesses certain disadvantages. It stains the area of application, is irritating, painful and may delay healing of wounds.

Iodophors are developed by complexing iodine with surfactants like nonionic detergents, quaternaries, and macromolecules. The detergents act as solubilizers and carriers. Iodophors are non-irritating and non-staining, water miscible in all dilutions. They owe their germicidal property slowly. Iodophors are developed by complexing iodine with surfactants like nonionic detergents, quaternaries, and macromolecules. The detergents act as solubilizers and carriers. Iodophors are non-irritating and non-staining, water miscible in all dilutions. They owe their germicidal property slowly.

PROCEDURE OF LOCAL APPLICATION

1. *Yashtimadhusiddhaghritawas* taken in stainless steel bowl & got heated on spirit lamp to warm *yashtimadhusiddhaghrita*.

2. *Vranakarma (dressing of incision wound)* with *yashtimadhu siddha ghruta* was done on alternate day upto *Sutranirharan* (removal of stitches) of patients in Group A

3. *Vranakarma (dressing of incision wound)* with Povidone Iodine was done on alternate day upto *Sutra-nirharan* (removal of stitches) of patients in Group B

All the dressing material used i. e. gauze, cotton etc. was properly sterilized before using. *Yashtimadhusiddhaghrita* was pro-

tected from contamination & was applied after autoclaving.

Treatment was given for one week & maximum upto two weeks [upto sutranirharan]. In patients showing considerable complications, the supportive treatment was started.

For major *Shastrakarma* (surgeries) like Appendectomy Hernioplasty, Laparotomy post-operative I/V fluids, Antibiotics & Analgesics given as per signs & symptoms.

During this period keen observations were made for *Shula* (pain), *Araktata* (redness), *Strava* (discharge), *Vranashotha* (edges of wound), and *Sthanik Aushnya* (local temperature), *jwara* (body temperature) were immediately noted down in case paper.

Observations & Results

The observations of the 50 cases selected according to inclusion criteria and assessed according to assessment criteria are presented over here in tabular and graphical form. Proper statistical analysis was done to prove the significance of observations.

Criteria For distribution

A) Subjective

1. *Shula* 2. *Araktata* 3. *Strava* 4. *Sthanik aushnya* 5. *Vrana oshtha* 6. *Jwara*

B) Objective

1. Cured 2. Uncured

Criteria for assessment of result

A) Subjective

0	Nil
+	Mild
++	Moderate
+++	Severe

	<i>Pain</i>	<i>Strava (discharge)</i>	<i>Araktata</i>	<i>Vrana oshtha</i>	<i>Sthanik Aushnya</i>	<i>Jwara</i>
0	No pain	No discharge (strava)	Normal skin colour	Shyavavarni (shudha awastha)	No	98.6 F & below
+	Pain can tolerate	Lasika strava	redness	Inflamed	Yes	98.6 F

		va				& more
++	Pain relieved with analgesic	Lasika ani rakta strava	Redness with increased local temp.			
+++	Pain not relieved with analgesic	Puya strava	Redness with fluctuation			

Objective criteria

1) **Cured** – *Upasham* -These are the patients in whom the *vranas* achieved the *Rudhavastha* in 7-8 days without showing any sign of conversion into *Dushtavastha* [i.e. without showing any sign & symptoms of infection].

2) **Uncured** –*Anupsham*- These are the patients in which the *vranas* showed signs and symptoms of *Dushtavrana* in 5-7 days so some additional measure for treating the infection had to be given for that.

A) Subjective Criteria

1. SHULA

Gradation	Group A					
	D3	D5	D7	D9	D11	DS
0.	4	5	23	23	24	25
+	21	20	2	2	1	0
++	0	0	0	0	0	0
+++	0	0	0	0	0	0
Gradation	Group B					
	D3	D5	D7	D9	D11	DS
0	0	2	10	24	20	23
+	22	21	14	1	5	2
++	3	2	1	0	0	0
+++	0	0	0	0	0	0

2. ARAKTATA

Gradation	Group A					
	D3	D5	D7	D9	D11	DS
0	23	20	22	25	25	25
+	2	5	3	0	0	0
++	0	0	0	0	0	0
+++	0	0	0	0	0	0
Gradation	Group B					
	D3	D5	D7	D9	D11	DS
0	18	22	23	24	24	25
+	7	2	1	0	1	0
++	0	1	1	1	0	0
+++	0	0	0	0	0	0

3. STRAVA

Gradation	Group A					
	D3	D5	D7	D9	D11	DS

0	23	20	22	24	24	25
+	2	4	2	0	1	0
++	0	1	1	1	0	0
+++	0	0	0	0	0	0
Gradation	Group B					
	D3	D5	D7	D9	D11	DS
0	23	20	22	23	24	25
+	2	4	2	0	1	0
++	0	1	0	2	0	0
+++	0	0	1	0	0	0

4. STHANIK AUSHNYA:-

Gradation	Group A					
	D3	D5	D7	D9	D11	DS
0.	25	25	25	25	25	25
+	0	0	0	0	0	0
Gradation	GROUP B					
	D3	D5	D7	D9	D11	DS
0	20	23	25	25	25	25
+	5	2	0	0	0	0

5. VRANA OSHTHA:

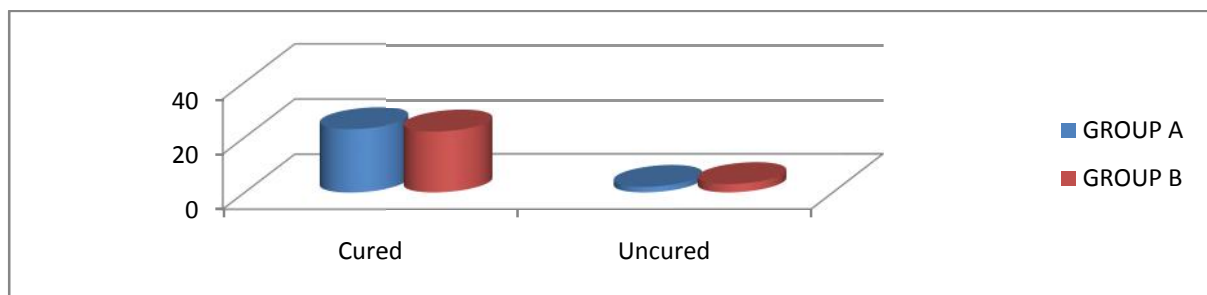
Gradation	Group A					
	D3	D5	D7	D9	D11	DS
0	18	16	10	2	2	2
+	7	9	15	23	23	23
Gradation	Group B					
	D3	D5	D7	D9	D11	DS
0	3	5	5	1	1	1
+	22	20	20	24	24	24

6. JWARA:

Gradation	Group A					
	D3	D5	D7	D9	D11	DS
0	0	0	0	0	0	0
+	25	25	25	25	25	25
Gradation	Group B					
	D3	D5	D7	D9	D11	DS
0	24	24	0	0	0	0
+	1	1	25	25	25	25

. Vranaropana

Vranaropan	Cured	Uncured
GROUP A	23	2
GROUP B	22	3



APPLICATION OF YASHTIMADHU GHRUTA IN

1. Diagnostic Laparotomy



In Fatty Layer



Vranakarma



After Sutranirharana

DISCUSSION

Regarding mode of action of drug

Yashtimadhu Vedanasthapak-
Yashtimadhu has Vedanasthapak property.
Vranaropak-Yashtimadhu has madhur Rasa, Guru & snigdha guna, it binds the epithelial cells i.e. Vranaropak property.
Varnya- No discoloration had been seen in any case among the selected patients. Yashtimadhusidh Ghruta also shows the varnya property. i.e. giving proper colour to skin like natural.

According to constituents-

Glycyrrhizin¹⁰-It has recently been identified as a selective inhibitor of thrombin. However, it does not inhibit the blood clotting action of thrombin meaning that the interaction is not very intense. The anti-inflammatory effect of Glycyrrhizin may be due to its anti-thrombin properties. It also having analgesic, antiulcer activity.

Glycyrrhizic acid- Astringent, Analgesic, Healing, Antiallergic, Anti-inflammatory, Antiseptic, Rejuvenating.

Ghee- It is having Yogavahi property, which creates good medium for absorption transport and delivers of the Ayurvedic formulation to the proper areas of the body. According to kaiyadev Nighantu – Varnya, good for wounds antibacterial, yogavahi, strotovishodhan & vranashodhan & vrana- ropan. Ghee also contains vit A, D, E and K .Vit A&E are antioxidants and are helpful in preventing oxidation injury to the body Vit A keeps epithelial tissue of the body intact, which is very useful for wound healing.

CONCLUSION

❖ This study was found very useful in the management of Sadyovranaby simple effective preparation of Yashtimadhusidha Ghruta by an ancient approach.

- ❖ *Yashtimadhusidha Ghruta* shown properties like **Vedanasthapak** [reduced pain], & **Shothaghna** [anti-inflammatry].
- ❖ *Yashtimadhusidha Ghruta* & povidone Iodine are equally effective in **Ropan** of *Sadyovrana* [Good wound healing property].
- ❖ *Yashtimadhusidha Ghruta* shown **varnya** Property. Discouloration of skin was not found in any case.

Present study proves that **Yashtimadhusidha Ghruta** has **Vedanasthapak, Shothaghna, varnya, & Vranaropan** properties.

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Source of Support: Nil

Conflict of Interest: None Declared