Effect of *Hingulamrutadi malahara* in the management of *dushta vrana*

Research article

Prem Chandra[1], Gopikrishna BJ[2], Avnish Pathak[3], Hemantha Kumar P[4]

1. P.G.Scholar, 2.Guide, 3. Associate Professor, 4. HOD
Dept. of ShalyaTantra, SDM College of Ayurveda & Hospital, Hassan, Karnataka, India

Abstract

Dustavrana is a common and frequently encountered problem faced in surgical practice. The presence of *Dushtavrana(1)* 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 Dustvrana into a shuddhavrana. (2) Once the vrana becomes shuddha, ropana of the vrana will start. The objective of the study was to evaluate the *Shodhana* and *Ropana* effect of *HingulamrutadiMalahara* in *Dushtavrana* compared with standard *Jatyadi Ghrita.*

Clinically diagnosed 40 Patients of *Dushtavrana* were randomly divided into two groups, each consisting of 20 Patients. H group were treated with the *HingulamrutadiMalahara* treated group. J Group as a control group was treated by *JatyadiGhrita.*

On the basis of assessment criteria and overall result of treatment, the patients of *Hingulamrutadi Malahara* group showed better results when compared to *Jatyadi Ghrita* group.

Hingulamrutadi Malahara has provided good relief in most of the signs and symptoms of the patients of *Dushtavrana,* in comparison to *Jatyadi Ghrita*. Its overall effects were good in comparison to *Jatyadi Ghrita.*

Key words: *Dusta Vrana, Hingulmrutadi Malahara, Jatyadi Ghrita*

Introduction:

Science is not merely a collection of facts & relationship but is more than composite of these facts, accumulated & systematically correlated over the ages.Classics of Ayurveda has emphasized at various places to take care of wounds which occur either as a result of vitiated *Doshas* or are traumatic in origin.

Shalyatantra is one of the important branch of Ayurveda in which surgical and parasurgical techniques have been described for management of various diseases. *Vrana* is one of them which is being managed by human being from starting of civilization.

Under the circumstances the first thing with which the men came across was the injury fromdifferent sources which caused him the *Vrana* (wound). *Vrana* is seen as debilitatingand scaring disorder usually seen affecting the human being at any age.

*Corresponding Author:
Prem Chandra,
Final year P.G, Scholar,
Dept. of ShalyaTantra,
SDM College of Ayurveda & Hospital,
Hassan, Karnataka, India
Ph.no: +91-9980691111
Email: drpremms@gmail.com

While explaining the scope of *Shalyatantra,* Sushruta has mentioned *Vrana Vinishcayart (3)* as a major part of *Shalyatantra.*

Even though healing of *Vrana* is a natural process of the body, the *Vrana* should be protected from *Dosha Dushti* (4) and from various micro-organisms, which may affect the *Vrana* and delay the normal healing process. So, for the early and uncomplicated healing of *Vrana,* treatment is necessary.

Material and Methods:

Clinically diagnosed 40 Patients of *Dushtavrana* were randomly divided into two groups, each consisting of 20 Patients.

Group 1: *Hingulamrutadi Malahara*(H Group):

The patients of this group were applied by *Hingulamrutadi Malahara*(5) once a day and bandaged.

Group 2: *Jatyadi Ghrita* (J Group):

The patients of this group were applied by *Jatyadi Ghrita,* once in a day and properly bandaged.

Drug:

Method of preparation of *Hingulamrutadi Malahara*
Ingredients:

Hingula	-	1 part
Siktha	-	2 parts
Tankana	-	1/6 parts
Rasa Karpura	-	1/6 parts
Spatika	-	1/6 parts

Ingredients for Taila Paka:

Pancha Valkala Kashaya	-	8 parts
Nirgundi Svarasa	-	8 parts
Tila Taila	-	4 parts
Kalka of Arka	-	½ part
Kalka of Haridra	-	½ part

Figure No 1

Figure No.2

With the *Pancha Valkala Kashaya, Nirgundi Svarasa, Tila Taila, Kalka* of *Haridra* and *Arka* the *Taila Paka* is done.To this 24 gm of *Siktha* is added and stirred well till it becomes homogenous mixture .To this fine powders of *Hingula, Tankana, Rasa Karpura, Spatika,* are added and mixed well and kept in air tight container.

Table No – 1 Showing the Grouping of the Patients

Group	Treatment	Duration
H	Application of *Hinhulamrutadi Malahara*	Till wound heals or 21 days
J	Application of *Jatyadi Ghrita* Prepared by SDM pharmacy	Till wound heals or 21 days

Diagnostic Criteria:

Diagnosis was made on the basis of *Lakshanas* of *Dushtavrana* like**,** *Deergha kaleena**,** Pooti pooya**,** Ateeva vedana**,** Daha**,** Kandu, Shopha**,** Shonita srava* (5)

Inclusion Criteria:

Patients suffering from *Dushtavrana* of all types *Dushtavrana* within size of 7x7 cm(length x breadth)

Exclusion Criteria:

Patients with disorders like Leprotic ulcer, Tubercular ulcer, HIV, HBsAg Positive patient will be excluded.

Investigations:

Blood, urine routine, culture and sensitivity if required.

Intervention:

Vrana is cleaned with normal saline. Then sterile gauze impregnated with *Hingulamrutadi Malahara* is applied on *Dustavrana* once in a day. Over it a sterile pad is placed and dressing done. This procedure is done until the proper healing is achieved. If the bandage becomes wet completely before 24 hours re-bandaging is done.

Assessment Criteria:

Vedana (Pain)

Table No. 2

S.No.	Symptoms	Grading
1	No pain	0
2	Pain during movement but tolerable	1
3	Pain during movement which affects the movement	2
4	Pain even during rest but not disturbing the sleep	3
5	Continuous feeling of pain disturbing the sleep also	4

2. *Daha*(Burning sensation)

Table No. 3

S.No.	Symptoms	Grading
1	No burning	0
2	Little, localized	1
3	Moderate localized	2
4	More localized	3
5	Continuous burning	4

3. *Kandu* (Itching)

Table No. 4

S.No.	Symptoms	Grading
1	No itching	0
2	Slight	1
3	Moderate	2
4	More	3
5	Continuous	4

4. *Srava*(Discharge)

Table No. 5

S.No.	Symptoms	Grading
1	No discharge	0
2	gauze slight moist	1
3	gauze completely wet	2
4	moist completely within 24 hours	3

5. *Gandha*(Smell)

Table No.6

S.No.	Symptoms	Grading
1	No smell	0
2	Minimum bad smell	1
3	Moderate bad smell	2
4	Unpleasant	3
5	Foul smell	4

6. Akruti (Floor & Granulation)

Table No. 7

S.No.	Symptoms	Grading
1	Smooth, regular floor & with healthy granulation tissue	0
2	Smooth, regular floor, slight discharge, with absence of slough	1
3	Smooth, irregular, slight discharge, less granulation tissue and presence of slough	2
4	Rough floor and presence of slough with moderate quantity of discharge	3
5	Rough, irregular floor with more slough and profuse discharge	4

Observations and Results:

Table No.8 Age & Sex wise distribution

	Group H		Group J			
	Male	Female	Male	Female	Total	%
20-30 years	0	1	1	0	2	5%
31-40 years	2	0	2	2	6	15%
41-50 years	5	1	1	3	10	25%
51-60 years	4	2	7	1	14	35%
61-70 years	3	1	2	0	6	15%
≥71 years	1	0	1	0	2	5%
Total	15	5	14	6	40	100

Age & Sex: Total 40 patients, in that 29 male and 11 females patients.

Table No.9 Occupation wise distribution

Occupation	Group H	Group J	Total	%
Business	4	2	6	15%
Carpenter	1	0	1	2.5%
Coolie	0	2	2	5%
Driver	1	1	2	5%
Farmer	7	7	14	35%
House wife	5	6	11	27.5%
Security guard	1	1	2	5%
shopkeeper	1	0	1	2.5%
Teacher	0	1	1	2.5%
Total	**20**	**20**	**40**	**100**

Occupation: 35% of the patients were farmer and 27.5 % were house wife

Table No.10 Appetite wise

Appetite	Group H	Group J	Total	%
Good	9	7	16	40%
Moderate	6	10	16	40%
Poor	5	3	8	20%
Total	**20**	**20**	**40**	**100**

Appetite: 40% the patients were having good and 40 % moderate appetite

Table No.11 Past History wise

Past History	Group H	Group J	Total	%
Diabetic	8	4	12	30%
HT	1	1	2	5%
DM and HT	6	3	9	22.5%
Others	0	5	5	12.5%
none	5	7	12	30%
Total	**20**	**20**	**40**	**100**

Past History: 30% patients were having diabeties and 22.5% patients diabetes with Hypertension

Table No.12 Sleep wise distribution

Sleep	Group H	Group J	Total	%
Disturbed	11	12	23	57.5%
Sound	9	8	17	42.5%
Total	**20**	**20**	**40**	**100**

Sleep: 57.5 % Patients were having disturbed sleep and 42.5% sound sleep

Table No.13 Arterial pulsation

Arterial pulsation	Group H	Group J	Total	%
Normal	16	13	29	72.5%
Diminished	4	7	11	27.5%
Total	**20**	**20**	**40**	**100**

Arterial pulsation: 72.5% patients were having normal pulsation and 27.5% diminished pulsation

Results:

Effect on *Vedana* (Pain):

Table No 14 Showing Effect on *Vedana*

Vedana	Group H	Group J	In between group
Mann-Whitney U	-	-	102.0
Wilcoxon W	-	-	312.0
Z value	**-3.901**	**-3.126**	-2.783
P value	**<.001**	**<.005**	<.005
Interpretation	HS	S	S

HS- Highly significant, S- significant

In Group H, obtained z value -3.901 and p value .001 this is statistically highly significant which shows reduced *Vedana*.

On the other hand Group J obtained z value -3.126 and p value .002 which is statistically significant, shows reduced *Vedana.*

But when the comparison done in between the group higher mean rank in Group H than Group J, and p value is .005 which is significant, shows more effect in reduction of *Vedana* in Group H than group J.

Effect on *Srava* (Discharge):

Table No.15 Showing effect on *Srava*

Srava	Group H	Group J	In between group
Mann-Whitney U	-	-	68.50
Wilcoxon W	-	-	278.5
Z value	-3.893	-3.502	-3.685
P value	<.001	<.001	<.001
Interpretation	HS	HS	HS

HS- Highly significant

In Group H, obtained z value -3.893 and p value .001 this is statistically highly significant which shows decreased *Srava*.

On the other hand Group J obtained z value -3.502 and p value .001 which is statistically highly significant, shows reduced *Srava*

But when the comparison done in between the group higher mean rank in Group H than Group J, and p value is .001 which is highly significant, shows more effect in reduction of *Srava* in Group H than group J.

Effect on *Gandha* (Smell):
Table No.16 Showing effect on *Gandha*

Gandha	Group H	Group J	In between group
Mann-Whitney U	-	-	59.00
Wilcoxon W	-	-	269.00
Z value	-3.769	-3.275	-3.685
P value	.001	.001	.001
Interpretation	HS	HS	HS

HS- Highly significant
In Group H, obtained z value -3.769 and p value .001 which is statistically highly significant, this shows decreased *Gandha.*

On the other hand Group J obtained z value -3.275 and p value .001 which is statistically highly significant, shows reduced *Gandha.*

But when the comparison done in between the group higher mean rank in Group H than Group J, and p value is .001 which is highly significant, shows more effect in reduction of *Gandha* in Group H than group J

Effect on *Kandu* (Itching):
Table No.17 Showing effect on *Kandu*

Gandha	Group H	Group J	In between group
Mann-Whitney U	-	-	158.00
Wilcoxon W	-	-	368.00
Z value	-3.578	-3.272	-1.214
P value	**<.001**	<.001	>.005
Interpretation	HS	HS	NS

HS- Highly significant NS- Non significant
In Group H, obtained z value -3.578 and p value .001 which is statistically highly significant, which shows reduced *Kandu.*

On the other hand Group J obtained z value -3.272 and p value .001 which is statistically highly significant, shows reduced *Kandu.*

But when the comparison done in between the group higher mean rank in Group H than Group J, and p value is .225 which is non-significant, shows no effect in reduction of *Kandu* in Group 1 than group.

Effect on *Daha* (Burning):
Table No.18 showing effect on *Daha*

Daha	Group H	Group J	In between group
Mann-Whitney U	-	-	173.00
Wilcoxon W	-	-	383.00
Z value	-3.963	-3.236	-.779
P value	**<.001**	<.001	>.005
Interpretation	HS	HS	NS

HS- Highly significant NS- Non significant
In Group H, obtained z value -3.963 and p value .001 which is statistically highly significant, which shows reduced Daha.

In Group 2 obtained z value -3.236 and p value .001 which is statistically highly significant, shows reduced *Daha.*
But when the comparison done in between the group higher mean rank in Group H than Group J, and p value is .436 which is non-significant, shows no effect in reduction of *Daha* in Group H than group J

Effect on Akruti (Granulation)
Table No.19 showing effect on Akruti (Granulation)

Akruti (Granulation)	Group H	Group J	In between group
Mann-	-	-	14.00

Whitney U			
Wilcoxon W			224.00
Z value	-4.093	-3.317	-5.285
P value	**<.001**	<.001	<.001
Interpretation	HS	HS	HS

HS- Highly significant

In Group H, obtained z value -4.093 and p value .001 which is statistically highly significant, this shows good granulation.

On the other hand Group J obtained z value -3.317 and p value .001 which is statistically highly significant, shows good granulation

But when the comparison done in between the group higher mean rank in Group H than Group J, and p value is .001 which is highly significant, shows more effect in good granulation H than group J.

Effect on Length
Table No.20 showing effect on Length

Length	H group	J group	In between group
Mean	2.0500	1.1000	2.000
Std. Deviation	.99868	1.1192	1.025
Std. Error Mean	.22331	.25026	.2294
t value	9.180	4.395	2.651
P value	<.005	<.005	>.005
Interpretation	S	S	NS

The observed t value (t = 2.651) has a p value of .012 which is more than 0.05 with degrees of freedom. Therefore, the test is non significant at 5% level of significance. Hence it is concluded that there is no significant difference in the efficacy of the two drugs in case of changes in length

Effect on Breadth
Table No.21 showing effect on Breadth

Length	H group	J group	In between group
Mean	1.90000	.80000	1.9500
Std. Deviation	.96791	.83351	.99868
Std. Error Mean	.21643	.18638	.22331
t value	8.779	4.292	3.954
P value	<.005	<.005	<.005
Interpretation	S	S	S

The observed t value (t = 3.954) has a p value of .001 which is less than 0.05 with degrees of freedom. Therefore, the test is significant at 5% level of significance. Hence it is concluded that there is significant in the efficacy of the two drugs in case of changes in breadth.

Case

Figure No. 3   Before treatment

Figure No. 4 During treatment

Figure No. 5   After treatment
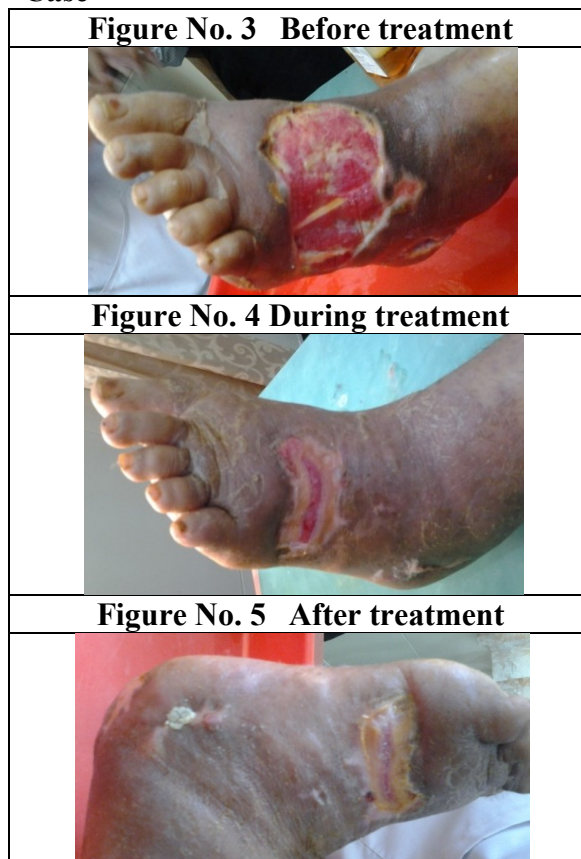
Mode of Action of *Hingulamrutadi Malahara*:

- One of main ingredient is *Rasa Karpura*, having *Tridoshahara & Vedanahara* properties and is the reason to reduce pain
- To reduce *Srava* drug should have *Kaphahara, Laghu, Ruksha guna, Kashaya rasa Grahi, Usna veerya* and *Vranashodhaka* properties. In this formulation *Rasakarpura, Tankana* and *Panchvalkala Kashaya* are having these qualities. So may help to reduce Srava
- *Sphatika* is *Madhura rasa, Sheeta, Snigdhaguna, Sheetaveerya*
- *Panchavalkala* is *Tikta Kashaya rasa, Sheeta veerya, Pitta Shamaka* can be probable reason to reduce *Daha*
- *Kandu* can be controlled with drugs which is having *Katu rasa, Usnaveerya, Kapha Shamaka, Tridoshahara, Twak doshahara, Vishahara* so *Hingula, Rasakarpura* is having all these properties, which reduces *Kandu*
- *Kapha-pitta hara, Vranashodhaka, Ruksha, Grahi* are the properties to control the *Puyanirharana* and its *Gandha*
- So here in this formulation, *Hingula, Rasakarpura, Tankana, Sphatika, Panchavalkala Kashaya* is useful for *Vrana shodhana* and *Ropana*

Effect of *Hingulamrutadi Malahara*:
Hingulamrutadi Malahara is a compound preparation, 20 patients of *Dustavrana* were treated with application.
Patients got significant relief in *Vedana, Srava, Daha, Gandha*, and *Kandu, Vrana* became *Shuddha* followed by *Vrana Ropana.*

Effect of *Jatyadi Ghrita*: *Jatyadi Ghrita* was selected as a control group drug, 20 patients of *Dustavrana* were treated with *Jatyadi Ghrita,* and followings are the reductions of signs and symptoms after applying *Jatyadi Ghrita*. There is a significant reduction in the *Vedana, Srava, Gandha* and marked relief in *Kandu,* size of the ulcer, granulation and no relief in *Daha,Vrana* became *Shuddha* and healing was started.

Comparision of the effect: Comparison of result was done in Group H(Hingulamrutadi Malahara) and Group J(Jatyadi ghrita) by Independent Sample t-Test, Mann-Whitney U Test.
Significant improvement were there on Srava, Gandha, size of ulcer by *Hingulamrutadi Malahara* compaired to *Jatyadi ghrita.* Pain intensity was less compaired to *Jatyadi ghrita* and granulation tissue was better in *Hingulamrutadi malahara*.

Conclusion:
On the basis of the discussions it can be concluded that *Hingulamrutadi Malahara* was better in providing relief to the patients of *DushtaVrana* in comparison to *Jatyadi Ghrita*

In total *Hingulamrutadi Malahara* with its *Puyanirharana, Vrana Shodhana* properties can be efficient enough to convert *Dustavrana* into *ShuddhaVrana*.
Further *Vrana Utsadana* function of the preparation may thus accelerate the healing of *Vrana*

References:

1. Dr.Anant Ram Sharma. Sushruta Samhita with Susrutavimarshini Hindi commentary. Edited by, Chaukambha Surabharati Prakashan. Varanasi; vol 1 Reprint – 2008, sutrasthana 22/7 p192
2. Vaidya Yadavji Trikamjiacharya:Sushruta samhitha with Dalhanacharya Nibhandhasangraha and Gayadasacharya Nyaychandrika Panjika commentary edited by Krishnadas Academy, Varanasi, reprint 2010, chikitsasthana 3/86, p414.

3. Anant Ram Sharma. Sushruta Samhita with Susrutavimarshini Hindi commentary. Edited by, Chaukambha Surabharati Prakashan. Varanasi; vol 1 Reprint – 2008, sutrasthana 1/(1) p5

4. Vaidya Yadavji Trikamjiacharya: Sushruta samhitha with Dalhanacharya Nibhandhasangraha and Gayadasacharya Nyaychandrika Panjika commentary edited by Krishnadas Academy, Varanasi, reprint 2010, sutraasthana 22/6, p108

5. Pranacharya Sree Sadananda Sharma Virachita Hindi commentary by Pandit Kasinatha Sastri Rasa Tarangini by published by Mothilal Banarasi das varanasi, 11th edition 2000 9th Taranga 27-31 Shloka page no 205

*****