

**STUDY OF EFFECT OF MANJISHTHASIDDHA GHRITA ON BURN WOUND****Mali Sandip Matu<sup>1</sup>, R.H. Amilkanthwar<sup>2</sup>**<sup>1</sup>Assistant Professor, Shalyatantra Dept., S.S.A.M., Hadapsar, Pune, Maharashtra, India<sup>2</sup>Associate Professor, Shalyatantra Dept., Government Ayurved College and Hospital, Nanded, Maharashtra, India**ABSTRACT**

In *Sushrut Samhita* while discussing the topic of *agnikarma*, there is description of *pramad dagdha* or *Itartha dagdha* i.e. accidental burn. Burn may be due to fire, moist heat, chemicals, electrical etc. *Acharyas* described many herbal combinations for burn wound management. *Siddha Ghrita* is one of them. In modern science there are various types of medicines like Silver Sulfadiazine for burn wound management this is locally applicable. For cosmetic purpose and to avoid post burn complications like keloid formation, contraction, discoloration of skin, the present research work had been carried out. Total 60 patients were selected randomly, divided in 2 groups i.e. Experimental group-30 patients had local application of *Manjishthasiddha Ghrita* and Control group-30 patients had local application of Silver Sulfadiazine. Result showed change of color of burn wound into normal skin color and burning sensation were reduced better and significantly by local application of Experimental Group than Control Group.

**Keywords:** Burn wound, *Dagdha Vrana*, *Manjishthasiddha Ghrita*, Silver Sulfadiazine.

**INTRODUCTION**

In this present era, due to industrialization, incidences of burn wound are increased. In day to day life, we used to come across various types of burns due to fire, moist heat, chemicals, electrical etc.

<sup>(1)</sup> The main problem in treating burn wound is socioeconomic condition in which most of the patients are from lower socioeconomic status. The socioeconomic condition reflects in their malnourishment i.e. hypoproteinemia, anemia which is major obstacle in the recovery of burn patients.

*Acharya* described many herbal combinations. *Siddha Ghrita* is one of them, which is very effective in burn management. The advantages of these drugs are that they not only manage burn wound but also reduces post burn complications i.e. keloid formation, discoloration, contracture etc. For

cosmetic purpose and to avoid post burn complications this study was selected.

**AIM AND OBJECTIVE:** To study of effect of *Manjishthasiddha Ghrita* on Burn wound.

**METHOD AND MATERIALS:**

Total 60 patients were selected from OPD and IPD of Government Ayurved College and Hospital, Nanded and S.G.G.S. Government Medical College and Hospital, Nanded. Patients were randomly divided in 2 groups. Experimental Group-30 patients had local application of *Manjishthasiddha Ghrita* for 15 days daily. Control Group-30 patients had local application of Silver Sulfadiazine for 15 days daily. All general examinations and routine laboratory investigations were done of all patients. Wound observation was done on 0<sup>th</sup> day, 3<sup>rd</sup> day, 7<sup>th</sup> day, 11<sup>th</sup>

day, 15<sup>th</sup> day. Specially prepared proforma was used to evaluate the patients during the study and follow up.

**S.O.P.:** Raw Material: *Manjishtha*, Family: *Rubiaceae*, Latin name: *Rubia Cordifolia Linn*, Part used: stems<sup>(2,3)</sup> *Manjishtha* and *Goghrita* were taken from authentic source. *Manjishthasiddha Ghrita* was prepared as mentioned in Ayurveda text<sup>(4)</sup>. For *Snehsiddha lakshna* all the tests as *agni pariksha*, *phen pariksha*, *gandhavarana pariksha*, *vartivat sneh kalka pariksha* were tested during preparation of *Manjishthasiddha Ghrita*<sup>(5)</sup>.

Wound was cleaned with distilled water before application of each drug. All the dressing material used was autoclave. Appropriate bandage of the burn wound was done after application of drug. *Manjishthasiddha Ghrita* was autoclave and applied it on autoclave sterile gauze then it put on burn wound after cleaning it. Silver Sulfadiazine was applied on burn wound with the help of sterile gauze after cleaning the burn wound every time.

#### Selection of patients:

A] Inclusion criteria:

- 1] Patient having up to 10% burn wound.
- 2] Patients having in the age group of 10-60 years.
- 3] Patients with only superficial burn wound were selected.
- 4] Patients were selected irrespective of sex, religion and financial status.

B] Exclusion criteria:

- 1] Patients having more than 10% burn wound.
- 2] Patients below 10 years and above 60 years age old.
- 3] Patients suffering from diabetes mellitus, T.B., Leprosy.
- 4] Deep and 3<sup>rd</sup> degree burn wound.
- 5] Infected burn wound.

6] Burn wound on face, head, genital organ.

#### Relief criteria:

- 1] Burn wound size was decreased.
- 2] Symptoms like burning sensation were decreased.
- 3] Discharge decreased.
- 4] Wound color was changed like normal skin color.

**Assessment Criteria:** All the patients registered for the current study were assessed on following parameters during the course of treatment in both groups.

**Size:** Burn wound size was measured with the help of transparent graph paper in mm.

#### Burning sensation:

Severe	+++
Moderate	++
Mild	+
Absent	0

#### Discharge:

Present	+
Absent	0

#### Color:

Reddish wound	+++
Reddish wound with whitish boundary	++
Whitish wound	+
Normal skin color	0

#### RESULTS AND OBSERVATIONS:

There were 63.33% male and 36.67% female patients in Experimental group. 46.67% male and 53.33% female patients in Control group. Statistically the distribution of patients according to sex in both groups was same. As far as age is concerned higher incidence of patients were from 21-40 years age. There were same numbers of patients 26.67% in both groups in 10-20 years age. There were 66.67% patients from 21-40 years age and 06.66% patients from 41-60 years age in Experimental group. There were 60% patients

from 21-40 years age and 13.33% patients from 41-60 years age in Control group. Statistically the distribution of patients according to age in both groups was same. As far as burn wound cause is concerned no. of patients of burn due to moist heat were high in both groups. There were 73.34% patients due to moist heat, 23.33% patients due to dry heat and 03.33% patient due to chemical in Experimental group. 53.33% patients due to moist heat, 43.34% patients due to dry heat and 03.33% patient due to chemical in Control group. Statistically the distribution of patients according to burn wound cause in both groups was same.

**Statistical Analysis:**

To assess the result of the study both objective and subjective findings were recorded before, during and after completion of the treatment. The most leading clinical features of burn wound were taken as subjective parameter for analysis. These are size, burning sensation, discharge and color of wound. As the sample size was small student's paired 't' test was applied to know the significance of subjective parameter converting into quantitative data <sup>(6)</sup>. The level of significance was set at 5 % ( P=0.05).

**TABLE 1: THE EFFECT OF TREATMENT ON SIZE OF BURN WOUND IN BOTH GROUPS.**

Follow up Day	Experimental Group		Control Group	
	$\bar{X}$	SD	$\bar{X}$	SD
0 th	809.000	694.530	2684.233	1605.207
3 rd	607.530	540.420	2076.467	1442.677
7 th	432.533	398.490	1695.267	1158.639
11 th	242.730	237.580	1280.070	0937.880
15 th	100.067	138.560	0993.067	0903.903

The effect of treatment on size in both groups was statistically significant. Mean of size decreases gradually in both groups.

**TABLE 2: THE DIFFERENCE BETWEEN TWO FOLLOW UP IN SIZE OF BURN WOUND IN EXPERIMENTAL GROUP.**

Difference obs. days	$\bar{X}_1$	SD <sub>1</sub>	SE	't'	P
0-3 days	201.470	243.08	44.38	4.54	P<0.05
3-7 days	175.000	203.01	37.07	4.72	P<0.05
7-11 days	189.800	207.14	37.82	5.02	P<0.05
11-15 days	142.670	125.72	22.95	6.22	P<0.05
0-15 days	708.930	635.29	115.99	6.11	P<0.05

**TABLE 3: THE DIFFERENCE BETWEEN TWO FOLLOW UP IN SIZE OF BURN WOUND IN CONTROL GROUP.**

Difference obs. days	$\bar{X}_2$	SD <sub>2</sub>	SE	't'	P
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0-7 days	607.770	564.590	103.080	5.896	P<0.05
3-7 days	381.200	364.770	66.597	5.723	P<0.05
7-11 days	415.200	316.310	57.750	7.190	P<0.05
11-15 days	287.000	221.196	40.380	7.107	P<0.05
0-15 days	1691.167	939.303	171.490	9.860	P<0.05

In above tables statistical analysis suggests that size of burn wound between two consecutive follow ups, before treatment and

after treatment was significant in both groups.

**TABLE 4: COMPARATIVE EFFECT OF TREATMENT ON SIZE OF BURN WOUND IN BOTH GROUPS.**

Experimental Group		Control Group		S.E.	‘t’	P
$\bar{X}_1$	SD <sub>1</sub>	$\bar{X}_2$	SD <sub>2</sub>			
708.93	635.29	1691.167	939.303	207.033	4.74	P<0.05

The above table suggests that the healing process in control group was better than Experimental group.

**TABLE 5: THE EFFECT OF TREATMENT ON DISCHARGE OF BURN WOUND IN BOTH GROUPS.**

Group	Experimental	Control	Total
Before Treatment	26	28	54
After Treatment	00	02	02
Total	26	30	56

$X^2=1.8$

$P>0.005$

The number of patients having discharge from burn wound was decreased in both groups statistically but the difference between numbers of patients having dis-

charge in both groups is not significant. So statistically Experimental Group and Control Group were equally effective to reduce the discharge.

**TABLE 6: THE EFFECT OF TREATMENT ON BURNING SENSATION IN BOTH GROUPS.**

Follow up Day	Experimental Group		Control Group	
	$\bar{X}$	SD	$\bar{X}$	SD
0 th	2.7	0.47	2.967	0.183
3 rd	2.033	0.414	2.833	0.38
7 th	1.333	0.479	2.1	0.48
11 th	0.7	0.596	1.867	0.681
15 th	0.1333	0.346	1.2	0.887

The effect of treatment on burning sensation in both groups was statistically

significant. Mean of burning sensation decreases gradually in both groups.

**TABLE 7: THE DIFFERENCE BETWEEN TWO FOLLOW UP IN BURNING SENSATION OF BURN WOUND IN EXPERIMENTAL GROUP**

Difference obs. days.	$\bar{X}_1$	SD <sub>1</sub>	SE	‘t’	P
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0-3 days	0.667	0.4794	0.088	7.616	P<0.05
3-7 days	0.7	0.466	0.085	8.226	P<0.05
7-11 days	0.633	0.49	0.089	7.077	P<0.05
11-15 days	0.567	0.504	0.092	6.158	P<0.05
0-15 days	2.567	0.568	0.104	24.73	P<0.05

**TABLE 8: THE DIFFERENCE BETWEEN TWO FOLLOW UP IN BURNING SENSATION OF BURN WOUND IN CONTROL GROUP.**

Difference obs. days.	$\bar{X}_2$	SD <sub>2</sub>	SE	't'	P
0-3 days	0.133	0.346	0.063	2.11	P<0.05
3-7 days	0.73	0.45	0.083	8.9	P<0.05
7-11 days	0.233	0.430	0.078	2.97	P<0.05
11-15 days	0.67	0.547	0.0998	6.679	P<0.05
0-15 days	1.767	0.858	0.157	11.27	P<0.05

In above tables statistically analysis suggests that burning sensation of burn wound between two consecutive follow

ups, before and after treatment was significant in both group.

**TABLE 9: COMPARATIVE EFFECT OF TREATMENT ON BURNING SENSATION IN BOTH GROUPS.**

Experimental Group		Control Group		S.E.	't'	P
$\bar{X}_1$	SD <sub>1</sub>	$\bar{X}_2$	SD <sub>2</sub>			
2.567	0.568	1.767	0.858	0.188	4.258	P<0.05

The above table suggests that the difference in burning sensation in Experimental group was more than Control group.

**TABLE 10: THE EFFECT OF TREATMENT ON COLOR OF BURN WOUND IN BOTH GROUPS.**

Followup Day	Experimental Group		Control Group	
	$\bar{X}$	SD	$\bar{X}$	SD
0 th	2.967	0.183	3.00	0.00
3 rd	2.533	0.507	2.967	0.183
7 th	1.933	0.583	2.367	0.49
11 th	1.467	0.507	2.167	0.592
15 th	0.6	0.56	1.733	0.639

The effect of treatment on color of burn wound in both groups was statistical-

ly significant. Mean of color of burn wound decreases gradually in both groups.

**TABLE 11: THE DIFFERENCE BETWEEN TWO FOLLOW UP IN COLOR OF BURN WOUND IN EXPERIMENTAL GROUP.**

Difference obs. days.	$\bar{X}_1$	SD <sub>1</sub>	SE	't'	P
0-3 days	0.433	0.504	0.092	4.71	P<0.05

3-7 days	0.6	0.498	0.091	6.59	P<0.05
7-11 days	0.467	0.507	0.093	5.037	P<0.05
11-15 days	0.867	0.507	0.093	9.355	P<0.05
0-15 days	2.367	0.56	0.102	23.31	P<0.05

**TABLE 12: THE DIFFERENCE BETWEEN TWO FOLLOW UP IN COLOR OF BURN WOUND IN CONTROL GROUP.**

Difference obs. days.	$\bar{X}_2$	SD <sub>2</sub>	SE	't'	P
0-3 days	0.033	0.183	0.033	1.00	P<0.05
3-7 days	0.6	0.4983	0.091	6.59	P<0.05
7-11 days	0.2	0.407	0.074	2.69	P<0.05
11-15 days	0.433	0.504	0.092	4.71	P<0.05
0-15 days	1.267	0.639	0.117	10.84	P<0.05

In above tables statistical analysis suggests that color of burn wound between two consecutive follow ups, before and

after treatment was significant in experimental group.

**TABLE 13: COMPARATIVE EFFECT OF TREATMENT ON COLOR OF BURN WOUND IN BOTH GROU**

Experimental Group		Control Group		S.E.	't'	P
$\bar{X}_1$	SD <sub>1</sub>	$\bar{X}_2$	SD <sub>2</sub>			
2.367	0.56	1.267	0.639	0.155	7.09	P<0.05

The above table suggests that the difference of color of burn wound in Experimental group is more than Control group. Hence the treatment on color of burn wound in Experimental group is significant.

*ropan, sandhankar, lekhan, and kapha-pittaghna. Tikta rasa* has specific properties like *kledshoshan, lekhan, dahprashaman, raktaprasadan* (Blood purifier), *kaphaghna. Madhur rasa* works as *ropankar. Shit veerya* works as *pittaghna* and *dahprashaman*. *Aacharya Hemadri* has described *shoshan* property of *Ruksha guna. Snigdha guna* is *vatahara* and responsible for *mruduta* and *Varna*. According to *Aacharya Vriddha Vagbhata, Ushna veerya* has *vatkaphaghna* property and it has *ashupaka* property through which it acts quickly at minute channels.

## DISCUSSION

The *dagdha vrana* (Burn wound) comes under *Aagantu vrana* i.e. *Shuddhavrana*. In *Sushrut Samhita* while discussing the topic of *Agnikarma*, there is description of *Pramad dagdha* or *Itartha dagdha*<sup>(7)</sup> i.e. Accidental burns.

Probable mode of action- *Manjishtha* has *kashay, tikt, madhur rasa, ushna veerya, katu vipak, guru* and *rukshaguna*<sup>(8)</sup>. *Goghrita* has *madhur rasa* and *vipaka, shit veerya, guru* and *snigdha guna*. *Kashay rasa* has specific property like *kledshoshan* (Absorption of discharge),

Due to *tikt, kashay rasa* and *ruksha guna Manjishtha* destroys *dushta strava* and thus helps in *shodhan, Vranropan, Twakprasadan* and works as *Varnya*. It also decreases *daha* in *dagdha vrana*, to heal faster and no scar formation. *Goghrita* by *madhur rasa* and *shit veerya* decreases *dah*

and works as *Twakprasadan*. It has a property of *sookshma strotogamitam* i.e. it reaches the microscopic channels of the body hence is *vranaropak*. Also the property of *sanskarasya anuvartanam* i.e. it retains the property of the *dravya* with which it is processed without losing its own property.

## CONCLUSION

Change of color of burn wound into normal skin color, no post burn complications and burning sensation were reduced better and significantly by local application of *Manjishthasiddha Ghrita* than Silver Sulfadiazine. So *Manjishthasiddha Ghrita* acts as *varnya*. The difference between numbers of patients having discharge is not significant. So statistically Silver Sulfadiazine and *Manjishthasiddha Ghrita* were equally effective to reduce the discharge. Size of burn wound was reduced due to local application of Silver Sulfadiazine better than *Manjishthasiddha Ghrita*.

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Source of support: Nil  
Conflict of interest: None Declared