

A COMPARATIVE CLINICAL STUDY OF DURVADI TAIL AND NIMBAADYA TAIL APPLICATION AFTER JALAUKAVCHARNA IN THE MANAGEMENT OF DUSHTA VRANA

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ABSTRACT

Acharya Sushruta describes the concepts of principles of *Vrana* (wound) such as causes, classification, stages, examination, treatment, bandaging, complication, etc. *Dushtavrana* resembling with modern parlance. *Vrana* which has foul smell, continuously flowing putrified pus along with blood, with cavity, since long time etc, *Vrana Lakshana* in high intensity, and which is almost opposite to *Shuddha Vrana* is Nothing but *DushtaVrana*. In this context we can understand it as a non healing or contaminated wound. Total 60 patients are randomly selected in Group A (Trial Group) in which patient will be treated with *Durvadi Tail* and in Group B (Control Group) with *Nimbaadya Taila* after one sitting of *Jalaukavacharna*. It is concluded tha 25% patients had completely cured, 26.66% of patients got marked improvement, 33.33% patients showed moderate improvement and 15% of patients got mild improvement. None of the patients of this series remained unchanged. For the *shodhana* and *ropana* of *vrana* both local and oral treatment are explained by *Sushruta*. Planning a cost effective, reliable & technical simple management is the need of the day. The current problem, Efficacy of *Durvadi Taila* and *Nimbaadya Taila* application after *Jalaukavacharana* in *Dushtavrana* management is an effort in that direction.

Keywords: *Dushtavrana, Durvadi Tail, Jalaukavacharana, Nim, Baadya Taila, Vrana*

INTRODUCTION

The knowledge of *dushtavrana* is known since antiquity. The concepts of principles of *Vrana* (wound) such as causes, classification, stages, examination, treatment, bandaging, complication, etc. told by *Acharya Sushruta* remain unchanged even in this 21st century. A wound (*Vrana*) which refuses to heal or heals very slowly, despite best efforts by *Chikitsa Chatushpada viz., Bhishaka, Dravya, Upsthata* and *Rogi*, is known as

Dushta Vrana (Infected wound). *Acharya Sushruta*, the father of surgery, explained *Vrana* as, “*Gaatra*” means tissue (bod tissue or part of body). “*Vichurnane*” means destruction, break, rupture and discontinuity of the body tissue. The destruction/ break /rupture/ discontinuity of the body tissue are called *vrana*.^[1] *Dustha vrana* is one such long standing ulcer with profuse discharge and slough, where removing the debris and

enabling drug to reach the healthy tissue is more important. Many a times, non-healing *Vrana* pose a problem in surgical practice. Healing of *Vrana* is a natural process, but due to the interference of vitiated *Doshas*, *Vrana* becomes *Dushta* and normal healing process gets delayed. Achieving better wound healing with minimal scar and controlling the pain effectively are the prime motto of every surgeon. To heal a wound, the body undertakes a series of actions collectively known as 'wound healing processes. Most of the clean, open wounds do not require any antibiotics unless the wound is contaminated, or the bacterial cultures are positive. Bacterial infection of wound can impede the healing process and lead to life threatening complications. Hence, we feel the need of a new therapy to overcome this. Acharya Sushruta has described sixty procedures i.e. *Shashthi Upakramas* in the treatment of *Vranas*. These *Shashthi Upakramas* are divided broadly into 3 major groups. 1. *Vrana shodhana* 2. *Vrana Ropana* 3. *Vaikritapaham*

Out of these three types first *Upakrama* that is *Shodhana* is must for management of *dushta vrana* and after that *Ropana* is essential for *vrana*, many scientists all over world are working on number of preparations which may help in achieving complete *Vrana Shodhana* (debridement of wound) and ultimately *Vrana Ropana* (wound healing). Total 60 patients are randomly selected in Group A (Trial Group) in which patient will be treated with *Durvadi Tail* and in Group B (Control Group) with *Nimbaadya Taila* after one sitting of *Jalaukavacharna*. It is concluded that 25% patients had completely cured, 26.66% of patients got marked improvement, 33.33% patients showed moderate improvement and 15% of patients got mild improvement. None of the patients of this series remained unchanged. For the follower of *Shalyatantra* it's needed to establish an Ayurvedic effective management for wound healing. Sushruta has used various techniques to achieve wound healing, which are discussed in review. For the *shodhana* and *ropana* of *vrana* both local and oral treatment are explained by Sushruta. Planning a cost effective, reliable & technical simple management is the need of the day. The current problem, Efficacy of *Durvadi Taila* and *Nimbaadya*

Taila application after *Jalaukavacharna* in *dushtav-rana* management is an effort in that direction.

Materials and Methods

Materials

Drug: Group A (Trial Group): In this group patient will be treated with *Durvadi Tail* as a local application after one sitting of *Jalaukavacharna* for 21 days.

Group B (Control Group): In this group patient will be treated with *Nimbaadya Taila* after one sitting of *Jalaukavacharna* for 21 days.

Drug Contents: - *Nimbaadya Tail* as cited in *bhela samhita* contain tender leaves of *Nimba*, *Amra*, *Amlaki*, *Madhuka*, *Bala* and *Gomaya ras* and *Tila taila*. *Durvadi taila* Contain *Murva*, *Kamal*, *Lodhra*, *Ahifen*, *Nagarmotha*, *Chandan* and *Tila tail*

Drug Preparation: *Durvadi Tail* and *Nimbaadya tail:* This drug was prepared in our college *rashshastra* department was applied over *dushta vrana* after one sitting of *Jalaukavacharna*.

Ethical clearance: Before starting of clinical trials on patients with *Dushta Vrana*, this dissertation approved by ethical committee and permission was granted from committee.

Then clinical trials were conducted for the study in 2 groups.

Sample Size: 60 patients had been randomly selected from the OPD of *Shalyatantra* department at M S Ayurvedic medical college, Kudwa, Gondia college and allotted between two groups, Group A and B respectively.

Methodology

Plan of Work:

Minimum 60 patients of either sex were included in the study. Prior, informed written consent from patient has been taken. History and localized examination of all the patients has been taken thoroughly with the help of special case paper format. Patients diagnosed as '*Dushta Vrana*' were selected for study from *Shalya tantra O.P. Dept.* The group A were treated with *Durvadi tail*. While group B were treated with *Nimbadi tail*. Both groups were treated for a maximum period of 21 days. Those who improve were continued till a maximum period of three weeks if there were progressive

improvement. Those who didn't come for follow up were treated as dropouts.

Intervention

Durvadi Taila and *Nimbaadya Taila* was used as external local application over *Dushta Vrana* after first sitting of *Jalaukavacharana*.

Inclusive Criteria

Patients presenting classical signs of *Dushta Vrana*. The patients between the age group of 18-60 years will be selecting irrespective of sex, Prakriti, occupation, race, *Vrana* which are not secondary to systemic diseases. *Vrana* which are restricted to localized area.

Exclusive Criteria

Age below 18 years and above 60 are excluded from the study. Ulcer secondary to any malignancy, Osteomyelitis, Patients with systemic infection and those with local lymphatic spread of infection, Gangrenous ulcer, Diabetes mellitus., chronicity and socio-economic status.

Clinical Examination:

An exhaustive clinical proforma was specially prepared which include all prominent signs and symptoms. Relevant history was recorded. Assessment of graded signs and symptoms were recorded on day 0th, 3rd, 7th, 10th, 15th and 21st. The signs and symptoms were graded on four-point scale 0,1,2,3,4. Enquiry of any other signs and symptoms or any adverse reaction which developed during the trial was noted and entered in the clinical proforma. Informed consent has been signed from every patient before treatment.

Place of study : OPD and IPD of Shalya tantra department.

The change in Wound area after the treatment and gram staining were used as objective criteria for assessment of drug effect. Along with this *Vedana*, *Kandu*, *Strava*, *Gandha* were observed before & after treatment & noted on Case Record Form.

OBSERVATIONS and RESULT

Total 60 patients were studied in two different groups as follows:

Group A: 30 patients were treated with *Durvadi tail*.

Group B: 30 patients were treated with *Nimbaadya tail*.

Above 60 patients were treated, observed and assessment was done. The data collected from all patients were summarized and statistically represented in terms of:

1. Vital statistics, 2. Observations and results, 3. Statistical analysis.

Vital Statistics

Vital statistics of 60 patients treated under research study in 2 groups is summarized as follows –

The age group: (Table no.1) It was observed that maximum percentage of patients i.e. 36.66% were seen in age groups between 33-45, 46-60 years and 26.66% were seen in age groups between 18-32 years in group A. Similarly, maximum percentage of patients i.e. 36.66% were seen in age group of 18-32 and 46-60 years and 26.66% were seen in age group between 33-45 years in group B.

Site: (Table no.2) The site of *Dushta Vrana* of patients in trial group (A) and control group (B) were 03 (10%) and 02 (6.66%) respectively at back, 16 (53.33%) and 18 (60%) respectively at lower extremity, 07 (23.33%) and 06 (20%) respectively at upper extremity and 02 (06.66%) and 02(06.66%) at abdomen, 02(06.66%) and 2(06.66%) at chest respectively.

OBESERVATION

Effects of therapy on signs and symptoms by gradation:

Evaluation of the effect of therapy by gradation was followed as per criteria of assessment. Assessment was done with *Strava*, Wound area of *vrana*, *vedana* (Severity of pain) *kandu* (Itching), *gandh* (Smell), tenderness, gram staining.

Effects of therapy on *Vedana* (Table no.3)

Effects of therapy on *Srava*: (Table no.4)

Effects of therapy on Tenderness: (Table no.5)

Effects of therapy on *Gandh*: (Table no.6)

Change in Total Score (Table no.7)

Gradation for healed wound (Table no.8)

DISCUSSION

Discussion on clinical study:

During the clinical study, 60 patients of *Dushta Vrana* were selected from O.P.D. of department of

Shalyatantra. These patients were studied in the following two groups: -

Group A - 30 patients were selected in this group irrespective of their age, sex, religion and socio-economic status and having textual signs and symptoms of *Dushta vrana*. Dressing with *Durvadi Taila* was repeated daily during the first 5 days and on alternate days thereafter for a maximum period of 21 days. This group was named as Group A.

Group B 30 patients were selected in this group irrespective of their age, sex, religion and socio-economic status and having textual signs and symptoms of *Dushta vrana*. Dressing with *Nimbaadya Taila* was repeated daily during the first 5 days and on alternate days thereafter for a maximum period of 21 days. This group is known as Group B. Before dressing wound was cleaned with Distilled water in each group.

DISUSSION on OBSERVATION:

Age:- From the above study it is observed that the age group between 31-40 years were more prone to *dushta vrana* in group A that is 43.33% and between 20-30 years in group B that is 40.33% as this age group is more active and because of long working duration and stressful life they frequently affected by the traumas which may cause *dushta vrana*.

Site of Wound: - From the above study it is observed that 10% of the *dushtavrana* in back 56.66% in lower extremity, 20% in upper extremity, 3.33% in abdomen and 10% in buttocks. It shows that the lower limb more prone. it may be due to work in wet places and in the muddy places. The lower-class person this can causes wound to be infected.

Discussion on Observation Parameters:

Effect on pain: The analysis shows that in case of Pain reduction percentage in Group A after 21 days of treatment was 64.33 %. In group B it was 75 %. The mean score in Group A was 2.433 before treatment and it was reduced to 0.8667 after treatment. The mean score in Group B was 2.4 before treatment and it was reduced to 0.60 after treatment. was

relieved as per the property of *Nimbaadya Taila* it is having *Vatahara*, *Vedanasthapana* (Analgesic). In Group A, the pain was relieved but less compared to Group B. Though in both Group A and B reduction of pain was

significant but comparing these two groups, there is no much difference in both the groups.

Effect on Discharge- The analysis shows that in case of discharge reduction percentage in Group A after 21 days of treatment was 76.27%. In group B it was 81.48 %. The mean score in Group A 1.967 before treatment and it was reduced to 0.4667 after treatment. The mean score in Group B was 1.8 before treatment and it was reduced to 0.3333 after treatment. Though in both Group A and B reduction of discharge was significant but comparing these two groups statistically, there is not much difference

Effect on Tenderness: The analysis shows that in case of tenderness reduction E percentage in Group A after 21 days of treatment was 79.36%. In group B it was 91.80 %. The mean score in Group A 2.1 before treatment and it was reduced to 0.4333 after treatment. The mean score in Group B was 2.033 before treatment and it was reduced to 0.1667 after treatment. As *Nimbaadya Taila* is *ushna veerya* and *Kaphavataghna* action it is *sothagana*, that might have improved the tenderness, while *Durvadi Taila* is *vataghna* hence reduces tenderness but less than compare to *Nimbaadya Taila*. Though in both Group A and B tenderness reduction was significant but comparing these two groups statistically there is not much difference in both the groups.

Effect on Itching: Most patient have physiological itching during *Rhuyaman awastha* i.e. during healing and scar formation but that was considered as physiological itching. The analysis shows that in case of Itching reduction percentage in Group A after 21 days of treatment was 86.79% In group B it was 91.67%. The mean score in Group A 1.033 before treatment and it was reduced to 0.1667 after treatment. The mean score in Group B 0.8 was before treatment and it was reduced to 0.0666 after treatment. As *Nimbaadya taila* is *Tikta rasa* and *Krimighna* and *Kandughna*, that might have reduced the itching. Though in both Group A and B its reduction itching was significant but comparing these two groups statistically there is not much difference in both the groups.

Effect on Gandh - On day 0, 3rd, 7th, 10th, 15th, 21st Mann Whitney Z test P- values are 1.0, 0.643, 0.756, 0.442, 0.690, and 0.643 which are statistically non-

significant. i.e.; on day 0, 3rd, 7th, 10th, 15th, 21st the change in Group A and Group B nearly the same. It observed that there was nearly same improvement in sign & symptoms in both groups. Overall percentage of relief was almost equal in both groups. Comparison between two groups with respect to symptoms score was statistically evaluated by Mann – Whitney Z test. There was no significant difference found between two groups, i.e. both drugs are equally effective.

Overall effect of the Durvadi Taila and Nimbaadya Taila:

Considering the overall response of the patients to *Durvadi Taila* and *Nimbaadya Taila* shows that 26.66% patients were cured completely, 30% patient markedly improved, 30% moderately improved, 13.33% were marginally improved.

Based on the above results it can be concluded that *Durvadi Taila* and *Nimbaadya Taila* application helps to healing of *Dushta vrana* and provides significant relief in all its symptoms.

Thorough observation of the above results reveals that *Durvadi Taila* is better than *Nimbaadya Taila* but there is not much difference in both the groups.

Statistical analysis of these findings indicates that response to treatment was markedly significant after comparing means of two groups.

CONCLUSION

In this study total 60 cases of *Dushta Vrana* were treated with *Durvadi Tail* and *Nimbaadya Taila* after one sitting of *Jalaukavacharna*. Based on observation and results of the study following conclusions can be drawn. Both *Durvadi Taila* and *Nimbaadya Taila* has shown *vranshodhaka*, *vranailekhana*, *putihara*, *vedanasthapaka*, *vranaopaka* and *jantughna* properties in management of *dushta vrana*. *Durvadi Taila* and *Nimbaadya Taila* both are almost effective in *dushta vrana*. But marginally based on subjective criteria and based on wound healing *Durvadi Taila* is markedly more effective in the management of *dushtavrana* in all aspect. This study shows that *Durvadi Taila* and *Nimbaadya Taila* is easily available in tribal areas, abundant supply round the year and is economical. It is easy to prepare the dressing since it does not require any special skill,

use as home remedy and cost effective. *Durvadi Taila* and *Nimbaadya Taila* is a good option available with properties close to an ideal *Dushtavrana dressing*

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Table 1: Age wise Distribution

Age (Years)	Trial Group (A)		Control Group (B)	
	No. of patients	Percentage	No. of patients	Percentage
18-32	08	26.66%	11	36.66%
33-45	11	36.66%	08	26.66%
46-60	11	36.66%	11	36.66%
Total	30	100%	30	100%

Table 2: Showing distribution of patients according to their site of Dushta Vrana is as follows:

Site	Trial Group (A)		Control Group (B)	
	No. of patient	Percentage	No. of patients	Percentage
Back	03	10.00%	02	06.66%
Lower Extremity (LE)	16	53.33%	18	60.00%
Upper Extremity (UE)	07	23.33%	06	20.00%
Abdomen	02	06.66%	02	06.66%
Chest	02	06.66%	02	06.66%
Total	30	100%	30	100%

Table 3: Effects of therapy on *Vedana*:

<i>Vedana</i>	Group	Mean Score	Sd	Mann Whitney Z	P
D-0	A	2.77	.679	0.108	0.914NS
	B	2.80	.551		
D-3	A	2.07	.583	0.884	0.494 NS
	B	2.17	.379		
D-7	A	1.63	.615	1.349	0.183 NS
	B	1.83	.531		
D-10	A	1.33	.547	0.613	0.540NS
	B	1.27	.450		
D-15	A	.77	.626	0.0	1.0 NS
	B	.77	.626		
D-21	A	.37	.556	1.212	0.225 NS
	B	.20	.407		

Table 4: Effects of therapy on *Srava*:

Srava (Discharge)	Group	Mean Score	Sd	Mann WhitneyZ	P
D-0	A	2.63	.615	1.977	0.048 Sig
	B	2.90	.305		
D-3	A	1.93	.521	1.278	0.201 NS
	B	2.10	.481		
D-7	A	1.67	.547	1.169	0.242 NS
	B	1.80	.407		
D-10	A	1.33	.479	0.0	1.0 NS
	B	1.33	.479		
D-15	A	.73	.640	2.052	0.04 Sig
	B	.40	.498		
D-21	A	.10	.305	0.463	0.643 NS
	B	.07	.254		

Table 5: Effects of therapy on *Tenderness*:

Tenderness	Group	Mean Score	Sd	Mann WhitneyZ	P
D-0	A	2.70	.596	0.137	0.891 NS
	B	2.73	.450		
D-3	A	2.07	.583	0.684	0.494 NS
	B	2.17	.379		
D-7	A	1.57	.568	1.880	0.06 NS
	B	1.83	.531		
D-10	A	1.33	.547	0.613	0.540 NS
	B	1.27	.450		
D-15	A	.50	.572	0.869	0.385 NS
	B	.37	.490		
D-21	A	.20	.407	0.687	0.492 NS
	B	.13	.346		

Table 6: Effects of therapy on *Gandh*:

Gandh	Group	Mean Score	Sd	Mann WhitneyZ	P
D-0	A	1.00	.000	0.0	1.0 NS
	B	1.00	.000		
D-3	A	.93	.254	0.463	0.643 NS
	B	.90	.305		
D-7	A	.80	.407	0.311	0.756 NS
	B	.77	.430		
D-10	A	.53	.507	0.769	0.442 NS
	B	.43	.504		
D-15	A	.13	.346	0.399	0.690 NS
	B	.10	.305		
D-21	A	.10	.305	0.463	0.643 NS
	B	.07	.254		

Table 7: Change in Total score

Total Score	Group	Mean Score	Sd	Mann WhitneyZ	P
D-0	A	10.533	2.0296	0.323	0.747 NS
	B	10.833	1.5554		
D-3	A	7.8333	1.7237	0.717	0.473 NS
	B	8.1667	1.3152		
D-7	A	6.2667	1.9640	1.225	0.221 NS
	B	6.9000	1.9537		
D-10	A	4.7667	1.8879	0.798	0.425 NS
	B	4.4667	1.8888		
D-15	A	2.2333	1.9241	1.079	0.281 NS
	B	1.7333	1.7603		
D-21	A	.8667	1.5916	1.122	0.262 NS
	B	.5333	1.3321		

Table 8: Gradation for healed wound

Grade	Group A	Group B
1 (76 to 100% healed)	17	16
2 (51 to 75% healed)	13	13
3 (26 to 50% healed)	00	01
4 (0 to 25% healed)	00	00

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