



## EVALUATION OF THE EFFICACY OF DADRU VIDRAVANA MALAHARA IN DADRU KUSHTA- A RANDOMISED CONTROLLED CLINICAL STUDY

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<https://doi.org/10.46607/iamj0807062020>

(Published online: July 2020)

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Article Received: 12/06/2020 - Peer Reviewed: 01/0706/2020 - Accepted for Publication: 04/07/2020



## ABSTRACT

Skin disorders are one among the common manifestations. Normally, 10-15% of the general practitioner's encounter patients with skin disorders. Ayurveda covers a number of skin manifestations under *Kushta Roga*. *Dadru* is one among *Kshudra Kushta*. It is identified by symptoms such as *Kandu*, *DeerghaPratana*, *Utsanna*, *Mandala*, *Raaga*, *Pidaka* with predominance of *Pitta Kapha Dosha*. It can be correlated with Tinea infection. Being a *Twak Vikara*, *Bahirparimarjana Chikitsa* like *Lepadhi* treatments plays an important role in the treatment of *Kushta* including *Dadru Kushta*. Present study was conducted on 60 diagnosed patients of *Dadru Kushta* who were randomly allocated with 30 each in two groups. *Dadru Vidravana Malahara* was given for local application in one group and *Gandhaka Malahara*, a widely used formulation in clinical practice was given for local application in another group. These local applications were advised for a duration of 7 days for under the treatment concept of *Lepa*. The ingredients of which are the drugs processing *Shodana* and *Kushtahara* property. The data was collected from patients at baseline, 4<sup>th</sup> day and 8<sup>th</sup> day (on completion). Assessment was based on KASI method of grading, number of lesions, perimeter of each lesion, *pidaka* (present or absent). The results of the study showed that,

a statistically significant difference was not seen between the effect of *Dadru Vidravana Malahara* and *Gandhaka Malahara* in *Dadru Kushta*.

**Keywords:** *Dadru*, Tinea, *Dadru Vidravana Malahara*, *Gandhaka Malahara*

## INTRODUCTION

Skin, largest organ of human body with its size and external location makes it susceptible to a wide variety of disorders<sup>1</sup>. Ayurveda covers a good number of skin manifestations under *Kushta Roga*. *Dadru* is one among them. It is identified by symptoms such as *Kandu* (Itching), *Deergha Pratana* (Elongated), *Utsanna* (Elevated), *Mandala*<sup>2</sup>(Circular lesion), *Raaga* (Erythema), *Pidaka* (Eruption) with predominance of *Pitta Kapha Dosha*<sup>3</sup>.

It can be near correlated with Tinea infection. Approximately 39% of world population suffers from it. In India 5 out of 100 people suffer from Tinea infection<sup>4</sup>. Being a *Twak Vikara* (Skin diseases), *Bahirparimarjana Chikitsa* (External or local measures of treatment) like *Lepadhi* treatments plays an important role in the treatment of *Kushta* including *Dadru Kushta*. As a house on fire is brought to normalcy by sprinkling water likewise the *Lepa* applied brings down the concerned *Vikara* (Disease). This simile by Acharya Sushruta states the importance of *Lepa*, which is one among the *Bahirparimarjana Chikitsa*<sup>5</sup> (External or local measures of treatment). *Malahara* is applied as a *Lepa* on the affected part.

In this study, *Dadru Vidravana Malahara*<sup>6</sup> was taken for one group, which was compared against a clinically widely used formulation *Gandhaka Malahara*<sup>7</sup>: taken as a standard for local application in another group. *Dadruvidravana Malahara* explained in *Rasa-Tarangini* is mentioned for *Dadru Kushta Chikitsa*, for duration of 7days for application. *Gandhaka*<sup>8</sup> is indicated for the treatment of *DadruKushta*.

Hence an earnest effort was made to compare the effect of these two *Malahara* in *DadruKushta*.

## Materials & Methods

### ➤ Source of Data: -

- **Drug Source:** -From the source of procurement.

- **Drug preparation:** -Dept of Rasashastra and Bhaishajya Kalpana, Alva's Ayurveda Medical College, Moodbidri.

- **Sample Source:** - OPD and IPD of PG studies of Kayachikitsa, Alva's Ayurveda Medical College Hospital, Moodbidri.

### ➤ Method of Data Collection: -

- a) **Selection of patients:** -Irrespective of gender, religion, occupation, marital status, socio-economic status and education status.

- **Sample size:** - 60 participants

- **Grouping:** -2 arms (A and B)

- **Number:** -30 in each arm.

- **Study design:** - Randomized controlled clinical study.

- **Blinding:** -Single blind

- **Method of Sampling:** -Lottery method.

### b) Diagnostic criteria:-

Based on following *Lakshana* of *Dadru*.

- *Kandu*
- *Udgamandala*

With or without,

- *Raga*
- *Pidaka*
- *Daha*
- *Rookshata*

### c) Inclusion Criteria:-

1. Patient who gave written consent for clinical trial.
2. Patients who fulfilled the diagnostic criteria.
3. Patients with age group between 16 to 60 years (both ages inclusive).
4. Both treated (not responded) and untreated cases.

### d) Exclusion Criteria:-

1. Patients associated with other types of *Twak-Vikara* (Skin diseases).
  2. Patients taking immune suppressive medications.
  3. Pregnant women and lactating women.
  4. Patients who have undergone recent surgeries.
  5. Patient suffering from any systemic or metabolic disorders like uncontrolled Diabetes Mellitus, Auto Immune diseases and any such conditions which could interfere with the course of the study.
- e) **Intervention :-** Group A– Trial group were given *Dadru Vidravana Malahara* for local application.  
Group B– Standard group were given *Gandhaka Malahara* for local application.  
**Time of Application:** - 3 times per day.
- f) **Observation Period:-**  
**Treatment Period** – 7days.  
**Days of assessments:** -  
0<sup>th</sup>day – at baseline.  
4<sup>th</sup>day – during treatment.  
8<sup>th</sup>day – on completion of treatment.
- g) **Assessment Criteria:-**  
Assessment was based on
- Characteristics for grade based on KASI<sup>9</sup> method of grading.
  - Number of lesions.
  - Perimeter of each lesion.
  - *Pidaka*(Eruption)– present/absent.
- h) **Statistical Methods:** -
- Central tendencies and dispersions were measured using mean, medium, standard deviation, standard error and Quartiles.
  - Tests of significance was done using paired ‘t’ test, unpaired ‘t’ test.

## OBSERVATION

It was observed that maximum number of patients (91.66%) were from the age group of 16- 30 years. Which represents the onset was more in youth and middle aged. According to gender male predominance (61.66%) was observed in this study. Based on occu-

pation, 75% were students and 11.66% were working class. The prevalence indicates the communicable nature of *Dadru* among students, especially residing in hostels & their susceptibility to skin infections due to ignorance and neglect about personal hygiene. Maximum number of patients (85%) was from middle class and most of the patients (58.33%) were fresh cases and onset was acute. According to precipitating and aggravating factors, the present study revealed that 38.33% had excessive sweating, 28.33% patients had during the summer season, 18.33% had incompatible diet patterns, 15% due to exposure to dust. This is due to moist area on the skin triggers the fungal growth. Based on diet habits, maximum patients i.e. 81.66% patients followed mixed diet. This may be due to rich protein diet accumulates *Kleda* in the body and aggravates of *Pitta Kapha Dosha*. Based on *Prakriti*, majority patients i.e. 48.33% people were *Pitta Kapha Prakriti*, 31.66% people were *Vata Kapha prakriti* and 20% people were *Vata Pitta Prakriti*.

## RESULTS

The study was carried out in 60 patients divided into 2 groups. *Dadru Vidravana Malahara* was received by Group A and *Gandhaka Malahara* in Group B. The data was collected from patients at baseline, 4<sup>th</sup> day and 8<sup>th</sup> day (on completion). In this study, paired and unpaired t-tests were performed to statistically evaluate the effectiveness of the interventions.

There was statistically significant difference in the assessment parameters in both groups on 4<sup>th</sup> and 8<sup>th</sup> days when compared to baseline. Table No.1

There is no statistically significant difference in the results between Group A and Group B on 4<sup>th</sup> and 8<sup>th</sup> day of treatment when comparison of KASI score. Table No.2

Perimeter of lesion shows that in Group A patients showed 14.2% and Group B 8.00% reduction in the perimeter of lesion. This difference between groups was not statistically significant. Number of lesions, there was no reduction in number of lesions in Group A and Group B. *Pidaka* (Eruption) were graded as present or absent. It was observed that, from Group A

33.3% and Group B 30% got relief from *Pidaka* (Eruption).

In overall effect of the treatment, out of 60 patients, 10% had marked improvement and 80% got moderate improved and 10% got mild improvement. Table No.3

## DISCUSSION

In KASI Score, the test showed significant changes in the symptom after the treatment with p value <0.001 in both the groups and in Perimeter of the lesion, the test showed significant changes in the symptom after the treatment with p value <0.001 in both the groups.

While comparing the effect of treatments between Group A and B, KASI Score shows that, in Group A 66.78% and Group B 54.34% reduction of symptoms was observed. The difference in the result obtained was not statistically significant between the two groups. Hence, it proved that both interventions were equally effective. Both *lepa* had *Krmighna*, and *Dadrughna* property. Perimeter of the lesion shows that, the difference between groups was not statistically significant. Hence it proved that both interventions were equally effective. In number of lesions, there is no reduction in number of lesions was seen in both groups. Because the study period was less to bring about a change in this parameter. And in *pidaka*, the result obtained may be due to the *Lekhaneeya* and *Shothaghna* property of the drugs.

### Probable Mode of Action of Dadruvidravana Malahara:

*Dadru Vidravana Malahara* contains *Gandhaka* (Sulphur), *Tankana* (Borax), *Chakramarda* (Cassia tora), *Laksha* (Lacifera lacca), *Tilataila* (Sesamum Indicum), *Siktha* (Bee Wax). *Siktha Taila* which act as an emollient or as a base in the preparation of *Malahara*. Almost all ingredients are *Kushtaghna*, specially *Chakramarda*, which is well known as *Kushtaghna*, *Kandughna*, *Dadrughna*. Its seeds are anti-inflammatory, anti-fungal, anti-bacterial and effective in skin diseases. The drugs used are *Kandughna*, *Tvachya*, *Krimihara*, *Kushtahara* and *Vyavayi*. *Raga* is present due to *Pitta Dosha* and *Rakta Dushti*. *Shudha Gandhaka* (Pure Sulphur) and other ingredients

which are possessing *Raktha Shodaka*, *Sheeta*, *Madhura*, *Tikta Rasa*, and properties like *Rakta Shodhaka*, *Rakta Prasadaka*, *Varnya*, *Deepana*, *Pachana* causes *Pitta Shamana* and helps to reduce *Raga*.

### Probable Mode of Action of Gandhaka Malahara:

The *Gandhaka Malahara* contain *Gandhaka* (Sulphur) and *Sikta* (Bee Wax) *Taila*. It is having *Ushna Veerya* and does *Ama Pachana* locally. The *Tikta Kashaya Rasa* and *Laghu Rooksha Guna* are *Kaphahara* and do *Lekhana Karma*. It is also effective in the elevation of *Raga* and *Daha*. *Gandhaka Malahara* has the capability of curing *Kandu*, *Kushta*, *Dadru*, *Visarpa*, *Twak Dosa*, *Ama Dosa*, *Visha Dosha*, *Krimi Roga*. It is considered as *Sarva Rogahara*.

## CONCLUSION

*Dadru* is *Pitta Kapha Pradhana Vyadhi*. The symptoms like *Kandu* (Itching), *Udgata Mandala* (Elevated circular lesion), *Raga* (Erythema), *Pidaka* (Eruption), *Daha* (Burning sensation), and *Rookshata* (Dryness) are the primary features of *Dadru*.

Within group analysis with paired t test showed that both the groups had statistically significant effects from baseline values. When both groups were compared using unpaired t test, there was no statistical significant difference between the groups. Hence the conclusion drawn was, there was no significant difference in the effect of *Dadru Vidravana Malahara* and *Gandhaka Malahara* in *Dadru Kushta*.

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**Table 1:** Kasi Score On 4th, 8th Day In Group A & Group B

Criteria	Group	Day	Mean			%	SD	SE	't' value	p value
			BT	AT	Diff					
KASI Score	A	4 <sup>th</sup> day	9.733	6.433	3.300	33.90	1.208	0.221	14.966	<0.001
KASI Score	A	8 <sup>th</sup> day	9.733	3.233	6.500	66.78	1.480	0.270	24.059	<0.001
Perimeter of lesion	A	8 <sup>th</sup> day	8.600	7.377	1.223	14.2	1.538	0.281	4.357	<0.001
KASI Score	B	4 <sup>th</sup> day	9.200	6.600	2.600	28.26	1.380	0.252	10.322	<0.001
KASI Score	B	8 <sup>th</sup> day	9.200	4.200	5.000	54.34	1.509	0.275	18.153	<0.001
Perimeter of lesion	B	8 <sup>th</sup> day	9.167	8.433	0.734	8.00	0.935	0.171	4.295	<0.001

**Table 2:** Comparison Table

Assessment Criteria	Day	Mean Difference			Percentage of Relief		't' value	p value
		Group A	Group B	Diff	Group A	Group B		
KASI Score	4 <sup>th</sup> day	6.433	6.600	0.167	33.90	28.26	0.388	= 0.699
KASI Score	8 <sup>th</sup> day	3.233	4.200	0.967	66.78	54.34	2.668	= 0.010
Perimeter of the lesion	8 <sup>th</sup> day	7.377	8.433	1.056	14.2	8.00	1.104	= 0.274

**Table 3:** Overall Effect In Percentage

Relief	Group A	Group B	Total	%
Complete	00	00	0	0
Marked	06	0	6	10%
Moderate	24	24	48	80%
Mild	00	06	6	10%
No	00	00	0	0

**Source of Support:** Nil

**Conflict of Interest:** None Declared

How to cite this URL: Nidhin V S & Zenica D'souza: Evaluation Of The Efficacy Of Dadru Vidravana Malahara In Dadru Kushta - A Randomised Controlled Clinical Study. International Ayurvedic Medical Journal {online} 2020 {cited July, 2020} Available from: [http://www.iamj.in/posts/images/upload/3858\\_3862.pdf](http://www.iamj.in/posts/images/upload/3858_3862.pdf)