

A CLINICAL STUDY ON EFFECT OF HARITALADI LEPA IN DADRU KUSTA

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ABSTRACT

Diseases pertaining to skin make a great impact on the quality and aesthetic of an individual. In present era prevalence of skin disorders are most commonly seen due to poor sanitation, unhygienic condition, improper skincare, unwholesome food and activities especially *Virudhahara* (improper combination of different taste at food). In Ayurveda *Kushta* is considered as one among *Mahagada*. Among *Kushta*, *Dadru Kushta* is commonly seen in the present days. Incidence of *Dadru* is usually seen because of uncleanliness of body, sharing others clothes etc., hence *Dadru* can be considered as one of the *Sankramika Vyadhi*. On the basis of presenting symptomatology most of the scholars have simulated *Dadru* with *Tinea* through modern perspective. *Tinea corporis* is a superficial fungal infection of the arms,

legs especially on glabrous skin, however it may occur in any part of the body. Among the *Shamana yoga*'s, *Rasadravya*'s are considered to be more potent. Keeping this point in view, an attempt is made to study the efficacy of Haritaladi Lepa in *Dadru Kushta*. The present study was conducted on 30 diagnosed subjects of *Dadru Kushta*. Sufficient quantity of Haritaladi Lepa was given for application for the period of 14days, and the data was collected from the subjects at baseline i.e. 7th day (during treatment), 14th day (after treatment) and 21st day (follow up). The overall effect of Haritaladi Lepa on *Dadru Kushta* was 54.55% and all the parameters showed statistically significant results.

KEYWORDS: Dadru, Kushta, Haritaladi Lepa, *Tinea corporis*.

INTRODUCTION

Skin diseases are common manifestation in present era and afflicts individual irrespective of age group. It is a protective organ which reflects the health of the individual.^[1] In recent years there has been a considerable increase in the incidence of skin problem in the tropical and developing countries like India. It should be noted that 10 - 15% of the general practitioners work with skin disorders of which, fungal infection constitutes up to 20%.^[2]

According to *Caraka*^[3] and *Vagbhata*^[4] all *Kushta* is due to aggravation of *Tridosha*, but *Sushruta* considered the involvement of *Krimi* along with *Doshas*.^[5] Initially aggravated *Doshas* vitiates *Dushyas* like *Twak*, *Raktha*, *Mamsa* and *Ambu* by circulating in them and produces *Vaivarnya*. According to *Sushruta* wherever the aggravated *Dosha* gets scattered and settled *Mandalas* appears at that site.^[6] This means these factors are significantly involved in the *Samprapthi* of *Kushta*.

Dadru is one of the most common and irritating skin disease, still stands as a challenge to all medical system. It is a variety of *Kushta* with *Rasa Raktha Mamsa Datu* involvement. Its aetiology includes *Aharaja*, *Viharaja* (which includes *Aupasargika* also) and *krimi* factors.^[7] It is identified by symptoms such as *Raga*, *Kandu*, *Pidaka*, *Mandala*, *Rooksha*.^[8] *Tenia* is a group name for a highly contagious, segmented mycelia fungus^[9] Symptoms of *Dadru* is quite similar to *Tenia Corporis* in modern science.

Being *Twak Vikara Bahirparimarjana Chikisa*^[10] like *Alepa etc* treatments plays an important role in the treatment of all *Kushta* including *Dadru Kushta*. *Dadru* is a *Kapha Pitta Pradana Vyadhi*^[11], which is managed by *Shodana*, *Shamana* and *Bahirparimarjana Chikitsa*.

Many *yogas* have been mentioned in classics for the treatment of *Dadru Kushta*. In this present study *Haritaladi Lepa*^[12] (contains *Haratala*, *Durva*, *Saindhava*) is selected. All the three *Dravyas* are *Kushtahara* and by their *Snigdha* and *Lagu* property acts against *Pitta* and *Kapha Dosha*, thus may help in subsiding the disease condition. Thus keeping the above mentioned context in mind, *Haritaladi Lepa* was used and its efficacy in *Dadru Kushta* was evaluated.

MATERIALS AND METHODS

Materials used for the study: *Haritaladi Lepa* which is described under *Kushtadikara* of *Rajamarthanda* is taken as trail drug in the present study.

Haritaladi lepa preparation

Ayurvedic measurements are in volumetric so here for this study all medicines are taken in volumetric measurements. Drugs were taken in the following proportion.

Table No – 01 Ingredients and its proportion used in *Haritaladi Lepa*.

NAME	RATIO	WEIGHT
<i>Haratala</i>	1 part	58 gm
<i>Saindhava lavana</i>	1 part	116 gm
<i>Durva</i>	1 part	34 gm
<i>Gomutra</i>	Q.S	Q.S

Preparation

Patra Haratala and *Saindhava lavana* were collected from K.V.G *Ayurveda* pharma and research center. *Durva* and *Gomutra* were collected from nearby (local area in sullia) area.

HARATALA SHODANA: *Patra Haratala* was taken, finely powdered and triturated with sufficient quantity of *Gomutra*^[13] for 3 *Yama* (approximately 9 hours). Then the compound was dried in dryer and was finely powdered and sieved.

Dried *Durva* was finely powdered (through pulveriser) and was sieved, similarly *Saindhava* was powdered and sieved. All the three mixtures were taken in equal volume and mixed together homogenously and triturated with sufficient quantity of *Gomutra* for 3 hours, and the compound was dried under sunlight. The dried compound was finely powdered, measured and preserved in air tight container.

Source of data

A. Sample source

Patient selected from OPD, IPD, and camp programs of K.V.G.A.M.C sullia, duly following the inclusion and exclusion criteria.

B. Study design: An open clinical study.

C. Sample size: 30 patients fulfilling the diagnostic and inclusion criteria of either sex were selected and assigned in a group.

Diagnostic criteria

Diagnosis on the basis of following *Laksanas* of *Dadru Kushta*

- *Kandu*
- *Mandala*
- *Raga*
- *Pidaka*
- *Daha*
- *Rooksha*

Inclusion criteria

- Age group between 16-60 years irrespective of gender cast and religion.
- Patient who fulfils diagnostic criteria.

Exclusion criteria

- Patient below 16 years and above 60 years
- Patient suffering from other systemic disorders which interferes with the treatment.

Intervention schedule

1. Dose: Sufficient according to area involved with $\frac{1}{4}$ *Angula* thickness.
2. Duration of treatment – 14 days
3. Follow up period – 7 days
4. Total duration of study – 21 days
5. Time of administration –Application in morning after doing Garshana.

Assessment criteria

In *Ayurveda* there are no subjective and objective parameters for assessment. It is done purely on *Roga Lakshana* (symptomatology) as mentioned in *Ayurvedic* classics. Even though for (academic point of view) convenience it is divided in to two parameters and the assessment of the condition will be done based on a detailed Performa and will be analysed statistically before treatment, after treatment and follow up period.

Subjective parameters**1. *Kandu*****Table No. 02 Showing grading for *Kandu*.**

No <i>Kandu</i>	Grade 0
Mild <i>Kandu</i> (present but not troublesome)	Grade 1
Moderate <i>Kandu</i> (troublesome but not interfering with normal daily activities or sleep)	Grade 2
Sever <i>Kandu</i> (sever pruritus which is troublesome and normal routine activities will be severely hampered, itching with disturbing sleep)	Grade 3

2. *Daha***Table No. 03: Showing grading for *Daha*.**

No <i>Daha</i>	Grade 0
Mild <i>Daha</i> (present but not troublesome)	Grade 1
Moderate <i>Daha</i> (troublesome but not interfering with normal daily activities or sleep)	Grade 2
Sever <i>Daha</i> (sever burning sensation which is troublesome and normal routine activities will be hampered and disturbing sleep.)	Grade 3

OBJECTIVE PARAMETERS**1. *Raga*****Table No. 04: Showing grading for *Raga*.**

No colour change	Grade 0
Mild redness (Faint and near to normal)	Grade 1
Moderate redness (blanching and red Colour)	Grade 2
Dark brown colour.	Grade 3

2. *Pidaka***Table No. 05 Showing grading for *Pidaka*.**

No <i>Pidaka</i>	Grade 0
1 to 3 <i>Pidaka</i>	Grade 1
4 to 6 <i>Pidaka</i>	Grade 2
>7 <i>Pidaka</i>	Grade 3

3. *Mandala***Table No. 06: Showing grading for Number of *Mandala*.**

Number of Mandala	Grade
No <i>Mandala</i>	Grade 0
1 to 3 <i>Mandala</i>	Grade 1
4 to 6 <i>Mandala</i>	Grade 2
>7 <i>Mandala</i>	Grade 3

Table No. 07 Showing grading for size of *Mandala*.

Size of <i>Mandala</i>	Grade
No <i>Mandala</i>	Grade 0
<5 cm	Grade 1
5 to 10 cm	Grade 2
>10 cm	Grade 3

4. *Rookshatha***Table No. 08 Showing grading for *Rooksha*.**

Absent	Grade 0
Whitening of skin	Grade 1
Scaling of skin	Grade 2
Cracking of skin	Grade 3

RESULTS

Effect on *Kandu*: The study showed statistically significant result with an improvement of 42.85% over *Kandu*.

Table No. 09: Effect on *Kandu* in *Dadru Kushta*.

Symptoms	Measures				%	S.D	S.E	T value	P value
	BT								
Kandu	2.1	AT	1.4	0.7	33.33	0.534	0.097	7.172	<0.001
		AF	1.2	0.9	42.85	0.650	0.118	7.582	<0.001

Effect on *Daha*: The study showed statistically significant result with an improvement of 72.79% over *Daha*.

Table No. 10 effect on *Daha* in *Dadru Kushta*.

Symptoms	Measures				%	S.D	S.E	T value	P value
	BT								
DAHA	1.47	AT	0.8	0.67	45.58%	0.503	0.092	7.282	<0.001
		AF	0.4	1.07	72.79%	0.661	0.120	8.872	<0.001

Effect on *Raga*: The study showed statistically significant result with an improvement of 34.22% over *Raga*.

Table No. 11: Effect on *Raga* in *Dadru Kushta*.

Symptoms	Measures				%	S.D	S.E	T value	P value
	BT								
RAGA	1.87	AT	1.17	0.7	37.43%	0.595	0.108	6.433	<0.001
		AF	1.23	0.64	34.22%	0.981	0.179	3.573	<0.001

Effect on *Pidaka*: The study showed statistically significant result with an improvement of 54.42% over *Pidaka*.

Table No. 12 Effect on *Pidaka* in *Dadru Kushta*.

Symptoms	Measures			%	S.D	S.E	T value	P value	
	BT								
PIDAKA	1.47	AT	0.97	0.5	34.01%	0.508	0.092	5.387	<0.001
		AF	0.67	0.8	54.42%	0.846	0.154	5.174	<0.001

Effect on Number of *Mandala*: The study showed statistically significant result with an improvement of 59.47% over Number of *Mandala*.

Table No. 13 Effect on Number of *Mandala* in *Dadru Kushta*.

Symptoms	Measures			%	S.D	S.E	T value	P value	
	BT								
NO. OF MANDALA	1.9	AT	1.07	0.83	43.68%	0.592	0.108	7.685	<0.001
		AF	0.77	1.13	59.47%	0.661	0.120	9.369	<0.001

Effect on Size of *Mandala*: The study showed statistically significant result with an improvement of 58.53% over Size of *Mandala*.

Table No. 14 Effect on Size of *Mandala* in *Dadru Kushta*.

Symptoms	Measures			%	S.D	S.E	T value	P value	
	BT								
SIZE OF MANDALA	2.17	AT	1.37	0.8	36.87%	0.484	0.088	9.060	<0.001
		AF	0.9	1.27	58.53%	0.827	0.151	8.405	<0.001

Effect on Size of *Rooksha*: The study showed statistically significant result with an improvement of 59.57% over Size of *Rooksha*.

Table No. 15 Effect on *Rooksha* in *Dadru Kushta*.

Symptoms	Measures			%	S.D	S.E	T value	P value	
	BT								
ROOKSHA	0.23	AT	0.13	0.1	43.48%	0.305	0.055	1.795	>0.001
		AF	0.07	0.16	59.57%	0.365	0.066	2.424	<0.001

Total effect

Table No. 16 Overall effect of Treatment.

OVERALL EFFECT OF TREATMENT		
Grading	Relief in Percentage	Relief in patients
No Improvement	0%	0
Mild Improvement	1-30%	5

Moderate Improvement	31-60%	14
Marked Improvement	61-99%	11
Complete Remission	100%	0

In overall effect of treatment in *Dadru Kushta*, out of 30 patients in this study 05 patients (17%) got mild improvement, 14 patients (46%) got moderate improvement and 11 patients (37%) got marked improvement.

Overall effect of the treatment is 54.55%

DISCUSSION

Among the *Nidanas* mentioned for *Dadru* people took *Dadhi*, *Amla* (food prepared using excess tomatoes), *Lavana Rasa* like pickle etc. and people took *Matsya*, as this is quite common coastal region sea food. Some people were found to consume *Masha* (in the form of idly, Dosa, Vada etc), *Takra* and *Ksheera* in their daily routine. All these *Nidanas* are having *Snigdha Guna* thus increase the *Kapha* and produce *Kandu*.

Among *Viharaja Nidana Atisantapa* was seen more as most of them were farmers, coolie workers and students (they are exposed to hot sun during travelling, playing, work in field respectively). In this study 33.33 % of patients had *Upasarga* (contact with diseased person) as *Nidana*, 26% *Diwaswapna*, 30% *Ati Vyayama* i.e, doing hard work like working in fields and manual labour. By *Vyayama* more *Sweda* is produced by which it will increase *Kleda Amsha* in the body which will in turn increase the *Snigdha guna* of *kapha*.

Among the *Lakshanas* 97% of patients had *Kandu* which is caused by *Kapha Dosha*. 90% had *Daha*, 87% had *Raga*, 53% had *Pidaka* and 90 % had *Mandala*, these are caused due to *Pitta Dosha*. 20% patients had *Rookshatha* which was caused by *Vata*. By seeing the symptoms, it can be concluded that *Dadru* is a *Pitha Kaphaja Vyadhi*.

Among the patients considered for the clinical trial 60% got relief during cold season. 80% patients got aggravated symptoms during hot climate and 50% of patient's symptoms got aggravated on sweating.

Maximum number of patients were in the age group of 16-25 years i.e, 30%, 26.67% of patients were in the age group of 36-45 years. In the age group of 56-65 years 4% were recorded. These findings shows that *Dadru* is prevalent in age group between 16-25 years.

There is significant result of *Haritaladi Lepa* in *Dadru Kushta* irrespective of chronicity, but it is more effective with onset duration of 4 to 12 months.

Among 30 patients considered for the study 24 patients had moderate severity, 9 patients had mild severity and 4 patients had severe severity. The patients with mild and moderate severity got better result than patient with severe severity.

The treatment was given for 14 days with *Haritaladi Lepa* as *Shamana Yoga* which was highly significant. None of the patients developed any complications or any side effects during the course of treatment hence treatment modalities are safe and is of therapeutic value.

The above said observations indicated that patients have shown marked improvement in all the criteria of assessment of *Dadru*.

Probable mode of action

Haratala has *Katu Kashaya Rasa*, *Ushna Veerya* and *Tridoshaghna*. *Katu Rasa* is *Kandu Vinashyathi* and *Kaphahara*. *Rooksha Guna* of *Kashaya Rasa* subsides *Snigdha Guna* of *Pitta* and *Kapha Dosha*. In *Rasa Kamadhenu* it is said that “*Vishani Marutagnani*” which indicates all *Visha Dravyas* has *Vatahara* actions. *Caraka* said that poisonous drugs when not used in a proper way it will show harmful effects over the body, on the other hand if it is used in a proper way it acts as nectar. Chemical composition of *Haratala* is Arsenic Trisulphide, which contains *Gandaka* in it. *Gandaka* has *Kushtahara* properties and in *Kushta Chikitsa* many formulations have *Gandaka* in it. Hence *Haratala* also has its effective result over *Kushta*. In *Caraka Lelitakadi Prayoga (Gandaka)* is highlighted as one of effective remedy in *Kushta* disorder. *Saindhava Lavana* has *Madhura Rasa*, *Sheeta Veerya*, *Snigdha Guna*, *Avidahi* and *Tridoshaghna*. *Madhura Rasa* has *Guru Guna* which reduces the *Lagu Guna* of *Pitta*, *Sheeta Veerya* of *Saidava* acts against *Ushnata* of *Pitta* and *Snigdha* of *Saindhava* acts on *Rooksha Guna* of *Vata*. *Durva* has *Kashaya Tiktha Rasa*, *Lagu Guna*, *Sheeta Veerya* and *Kapha Pittahara*. *Kashaya Tiktha Rasa* has *Rooksha Guna* which reduces the *Snigdha* of *Kapha* and *Pitta*. *Lagu Guna* of *Durva* reduces *Guru Guna* of *Kapha* and *Sheetata* of *Durva* subsides *Ushnata* of *Pitta*. *Gomutra* is *Katu Tiktha Rasa*, *Lagu*, *Usha Veerya* and *Tridoshahara*. *Rooksha Guna* of *Katu Tiktha Rasa* subsides the *Snigdha* of *Kapha* and *Pitta*, *Lagu Guna* of *Gomutra* subsides *Guru guna* of *Kapha*.

In overall effect of treatment in *Dadru*, out of 30 patients in this study 05 patients (17%) got mild improvement, 14 patients (46%) got moderate improvement and 11 patients (37%) got marked improvement. Over all treatment o the effect is 54.55%.

CONCLUSION

The following conclusions are drawn from the clinical study undertaken on the topic *Haritaladi Lepa* in *Dadru Kushta* at K.V.G Ayurveda medical college and hospital sullia.

- On analyzing the *Nidana* which predominantly aggravate *Pitta* and *Kapha* are considered and *Nidanas* like *Katu*, *Amla*, *Lavana*, *Masha*, *Matsya*, *Aupasargika* (Contact with diseased person) and sudden intake of cold liquids immediately after exposure the sun light (while sweating) was found to be associated with the disease *Dadru*.
- In this study age group between 16-25, 26-35 and 36-45 years were more affected with *Dadru*.
- It is found that *Haritaladi Lepa* is more effective in patients with *Avara* and *Madhyama Vyadhibala* based on the severity of disease. Effect over *Pravara Vyahi Bala* couldnot be properly assessed as there was only 4 patients with *Pravara Vyadi Bala* condition.
- *Haritaladi Lepa* had significant result in *Kandu*, *Daha*, *Pidaka*, *Raga*, Number of *Mandala*, *Size of Mandala* and *Rookshata*, but was more effective in *Kandu* and *Daha* i.e., *Kandu* and *Daha* was reduced with in 3 days after application. Hence it can be concluded that the treatment is effective in *Dadru*.
- *Haritaladi Lepa* is more effective in disease of recent origin (the diease effected with in 3 months of duration) i.e., with in 48 hours *Kandu* and *Daha* were reduced. In chronicity above and 6 months result is comparatively less.
- During the period of treatment and after the treatment neither complications were observed nor did the patients complain any side effects.
- Overall effect of *Haritaladi Lepa* in *Dadru Kushta* is 54.55%. It is statistically significant ($P < 0.001$)
- Based on clinical features the disease *Dadru* can be co-related with *Tenia corporis*.

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