A CLINICAL OBSERVATIONAL STUDY TO EVALUATE THE COMBINED EFFECT OF VIDANGADI YOGA, DARVIGUDUCHYADI KASHAYA AND DURVADI LEPA IN THE MANAGEMENT OF DADRU VIS-À-VIS TINEA

Madhu.HM[1*], Mythrey RC[2], Gajanana Hegde[3]

[1*]PG Scholar, Department of Post Graduate studies in kaya chikitsa, Government ayurveda medical college, Mysore, India.
[2]Assistant Professor, Department of Post Graduate studies in kaya chikitsa, Government ayurveda medical college, Mysore, India.
[3]Professor and Head of the department, Department of Post Graduate studies in kaya chikitsa, Government ayurveda medical college, Mysore, India.

*Corresponding Author: **Madhu H.M**
PG Scholar, Department of Post Graduate studies in kaya chikitsa, Government ayurveda medical college, Mysore, India. Phone number : + 91 9481910135

ABSTRACT

The skin is the outermost covering of the body which acts as a protective barrier. But very often, it is exposed to many entities which can damage it and may cause many of the skin disorders. About 10 - 20% of the general practice includes the patients suffering from skin disorders and out of them Tinea constitutes upto 20%. The clinical features of Tinea is similar to the clinical features of Dadru. Ayurvedic classics have advocated many yogas in the management of Dadru. This study is an attempt to revaluate the line of treatment for Dadru vis-a-vis Tinea. Present study was conducted on 40 patients with Vidangadi yoga, Darviguduchyadi kashaya and Durvadi lepa for 30 days. In the present study the result obtained with respect to the parameters were statistically highly significant with 'P' value of 0.000.

Keywords: Dadru, Tinea, Vidangadi yoga, Darviguduchyadi kashaya, Durvadi lepa.

INTRODUCTION

Dadru being one among kustha is also a rasa, raktha and mamsa dhatu pradoshaja vikara[1]. All the clinical features of Dadru can be very well correlated to clinical features of Tinea. The related fungi are dermatophytes capable of causing skin changes of the type known as Tinea or ringworm or dermatophytosis or Mycosis[2]. Tinea is a group name for a highly contagious, segmented mycelia fungus[3].

With increasing number of people taking advantage of the easy life style, Tinea that were previously regarded as geographically limited and considered as nonpathogenic is now being more evident in any part of the world and are now being recovered as opportunistic invaders. Furthermore, in recent years the number of fungi recognised as human pathogens has risen, because of an increasing population of debilitated and immune compromised patients.

Tinea are usually transmitted from person to person by direct contact[4]. Hygiene and health go in parlance. In this regard it is relevant to note that in sushrutha samhita ,unhygienic condition is mentioned as one of the causative factor for kushta[5].

MATERIALS AND METHODS

Objective of the study:
To evaluate the combined effect of Vidangadi yoga, Darviguduchyadi kashaya as shamanaushadies and Durvadi lepa as external application in the management of Dadru vis-a-vis Tinea.

Study design:
The patients were selected from O.P.D and I.P.D of Government Ayurveda Medical College Hospital, Mysore, India. Total 45 patients between the age group of 16-70 years, fulfilling the criteria for the diagnosis of the disease were registered for the study. Out of which 5 patients got dropped out. Remaining 40 patients were assigned into single group. Data was collected as per the proforma of the case sheet. The study was an observational with pre and post test design. Institutional ethical clearance number assigned to this study is EC-2011 / KC 3.

Inclusion criteria
- The patients with classical lakshanas of Dadru irrespective of chronicity were selected.

- Patients of either sex and age group between 16-70 years were included.
- Patients of all varieties of Tinea were included irrespective of area of infection. Viz ; Tinea- capitis, corporis, unguim, cruris, mannum, pedis, barbae, facei.
- Both fresh and treated cases of Dadru were selected.

Exclusion criteria

- Patients suffering with systemic disorders like uncontrolled diabetes mellitus, auto immune diseases which interfere with the course of the treatment were excluded.
- Tinea associated with other skin diseases were excluded.

Diagnostic Criteria

The diagnosis was based on lakshanas of Dadru as explained in the classical texts of ayurveda and clinical manifestation of Tinea.

- Kandu (Itching)
- Raga (Erythema)
- Pidaka (Eruption)
- Daha (Burning sensation)
- Rookshata (Dryness)
- Udgata mandala (Elevated circular lesion)

Investigations:

No specific lab investigations were conducted for diagnosis of Dadru. However necessary investigations were done in required cases to rule out other systemic diseases or complications.

Intervention

- **Vidangadi Yoga :**
Choorna matra – 12gms/day divided into three equal doses (4gms), administered with honey after food three times a day for 30 days.
- **Darviguduchyadi kashaya :**
Matra – 15ml three times a day after food for 30 days.
- **Durvadi lepa :**
It is an external application, used two times a day i.e, morning and evening for 30 days. Lepa is prepared by mixing durvadi choorna with takra.

Criteria for Assessment

The results of the study were assessed according to the study parameters. The clinical features which considered for the assessment are kandu, raga, pidaka, daha, rookshata, udgata mandala.

Table 1: Showing the clinical gradings for the Assessment of Dadru

KANDU	K0	No itching
	K1	Mild (No disturbance while doing work)
	K2	Moderate (Disturbs the work)
	K3	Severe (Disturbs the sleep)
RAGA	R0	Normal skin colour
	R1	Mild redness (pinkish)
	R2	Moderate red
	R3	Deep brown.
PIDAKA	P0	No eruptions
	P1	Eruptions in 0- 25% of affected area
	P2	Eruptions in 25%- 50% of affected area
	P3	Eruptions in 50%- 75% of affected area
DAHA	D0	No burning sensation
	D1	Mild burning sensation
	D2	Moderate burning sensation
	D3	Severe burning sensation
ROOKSHATA	RO0	No dryness in the skin
	RO1	Loss in skin's normal unctuousness
	RO2	Moderate dryness of the skin
	RO3	Excessive dryness of the skin
UDGATA MANDALA	M0	No elevation of the skin
	M1	Mild elevation of the skin
	M2	Moderate elevation of the skin
	M3	Severe elevation of the skin

Overall assessment:

The following criteria were evolved to assess the total effect of the treatment on the patients of Dadru:

1	Complete relief	Complete improvement in the signs and symptoms of Dadru
2	Marked relief	>75% improvement
3	Moderate relief	Improvement between 50% to 75%
4	Mild relief	Improvement between 25% to 50%
5	No relief:	no change or less than 25% improvement

Statistical analysis:
Data was collected before, during and after the treatment. These were analysed by using descriptive statistics, contingency table analysis / x^2 test, paired sample 't' test using statistical presentation system software (SPSS) for windows.

OBSERVATION AND RESULTS

In the present study maximum number of patients belong to the age group of below 30 (40%) and between 41-50 (33%) years respectively with more male population (63.3%) and majority of them were home makers (30%), physical laborers (20%) and students(20%). Majority of them belonged to the urban habitat (70%) were graduates(75%) and belonged to lower middle class(52%). Majority of patients had aupasargika nidana (54.4%), most of them hailed from unhygienic environment (54.4%), majority of them had pittakaphaja prakriti (60%), most of them had excess sweating as an aggravating factor (50%). Maximum patients had lesions on multiple area(66.7%). The data regarding the samples were collected, depending upon the scoring given to each of the symptoms. The parameter were assessed before treatment (BT), during treatment (DT) and after treatment (AT). The effect of the treatment on Dadru (vis-à-vis Tinea) with respect to all the parameters like kandu, raga, pidaka, daha, rookshata, udgatamandala showed statistically highly significant with 'P' value of 0.000. overall assessment showed complete relief in 10 patients (25%) and marked relief in 30 patients (75%).

Table 2: Showing the results on severity of Kandu

Kandu	Duration				Total
	BT (0 day)	DT (10th day)	DT (20th day)	AT (30th day)	
No	0 (0%)	11(27.5%)	16(40.0 %)	39(97.0%)	66(41.25%)
Mild	5(12.5%)	12(30.0%)	24(60.0%)	1(2.5%)	42(26.25%)
Moderate	12(30.0%)	17(42.5%)	0(0%)	0(0%)	29(18.12%)
Severe	23(57.5.0%)	0(0%)	0(0%)	0(0%)	23(14.37%)
Total	40(100.0%)	40(100.0%)	40(100.0%)	40(100.0%)	160 (100%)

Symmetric Measures		Value	Approx. Sig.
Nominal by Nominal	Contingency Coefficient	0.719	0.000
N of Valid Cases		160	

Table 3: Showing the results on severity of Raga

Raga	DURATION				Total
	BT (0 day)	DT (10th day)	DT (20th day)	AT (30th day)	
No	0(0%)	6(15.0%)	4(10.0%)	20(50.0%)	30(18.75%)
Mild	5(12.5%)	15(37.5%)	31(77.5%)	20(50.0%)	71(44.37%)
Moderate	10(25.0%)	18(45.0%)	5(12.5%)	0(0%)	33(20.62%)
Severe	25(62.5%)	1(2.5%)	0(0%)	0(0%)	26(16.25%)
Total	40(100.0%)	40(100.0%)	40(100.0%)	40(100.0%)	160(100.0%)

Symmetric Measures		Value	Approx. Sig.
Nominal by Nominal	Contingency Coefficient	0.659	0.000
N of Valid Cases		160	

Table 4: Showing the results on severity of Pidaka

Pidaka	DURATION				Total
	BT (0 day)	DT (10th day)	DT (20th day)	AT (30th day)	
No	7(17.5%)	18(45.0%)	39(97.5%)	40(100.0%)	104(65.0%)
Mild	8(20.0%)	21(52,5%)	1(2.5%)	0(0%)	30(18.75%)
Moderate	23(57.5%)	1(2.5%)	0(0%)	0(0%)	24(15.0%)
Severe	2(5.0%)	0(0%)	0(0%)	0(0%)	2(1.25%)
Total	40(100.0%)	40(100.0%)	40(100.0%)	40(100.0%)	160(100.0%)

Symmetric Measures		Value	Approx. Sig.
Nominal by Nominal	Contingency Coefficient	0.619	0.000
N of Valid Cases		160	

Table 5: Showing the results on severity of Daha

Daha	Duration				Total
	BT (0 day)	DT (10th day)	DT (20th day)	AT (30th day)	
No	13(32.5%)	19(47.5%)	26(65.0%)	27(67.5%)	85(53.1%)
Mild	5(12.5%)	4(10.0%)	12(30.0%)	13(32.5%)	34(21.25%)
Moderate	5(12.5%)	17(42.5%)	2(5.0%)	0(0%)	24(15.0%)
Severe	17(42.5%)	0(0%)	0(0%)	0(0%)	17(10.6%)
Total	40(100.0%)	40(100.0%)	40(100.0%)	40(100.0%)	160(100.0%)

Symmetric Measures		Value	Approx. Sig.
Nominal by Nominal	Contingency Coefficient	0.484	0.000
N of Valid Cases		160	

Table 6: Showing the results on severity of Rookshata

Rookshata	Duration				Total
	BT (0 day)	DT (10th day)	DT (20th day)	AT (30th day)	
No	0(0%)	3(7.50%)	13(32.5%)	34(85.0%)	50(31.25%)
Mild	4(10.0%)	30(75.0%)	26(65.0%)	6(15.0%)	66(41.25%)
Moderate	18(45.0%)	7(17.5%)	1(2.5%)	0(0%)	26(16.25%)
Severe	18(45.0%)	0(0%)	0(0%)	0(0%)	18(9.3%)
Total	40(100.0%)	40(100.0%)	40(100.0%)	40(100.0%)	160(100.0%)

Symmetric Measures		Value	Approx. Sig.
Nominal by Nominal	Contingency Coefficient	0.686	0.000
N of Valid Cases		160	

Table 7: Showing the results on severity of Udgata mandala

Udgata mandala	Duration				Total
	BT (0 day)	DT (10th day)	DT (20th day)	AT (30th day)	
No	0(0%)	0(0%)	0(0%)	17(42.5%)	17(10.62%)
Mild	0(0%)	7(17.5%)	33(82.5%)	22(55.0%)	62(38.75%)
Moderate	15(37.5%)	32(80.0%)	7(17.5%)	1(2.5%)	55(34.37%)
Severe	25(62.5%)	1(2.5%)	0(0%)	0(0%)	26(16.25%)
Total	40(100.0%)	40(100.0%)	40(100.0%)	40(100.0%)	160(100.0%)

Symmetric Measures		Value	Approx. Sig.
Nominal by Nominal	Contingency Coefficient	0.697	0.000
N of Valid Cases		160	

DISCUSSION

In the present study it was observed that out of 40 patients, before treatment 23(57.5%) patients had severe kandu, 12 (30.0%)patients had moderate kandu and 5(12.5%) patients had mild kandu and after treatment 1(2.5%) patient had mild kandu and in 39(97.0%) patients kandu was absent.The result obtained on kandu showed statistically highly significant result with 'P' value 0.000.

In the present study it was observed that out of 40 patients, before treatment 25(62.5%) patients had   severe raga, 10(25.0%) patients had moderate raga, 5(12.5%) had mild raga and after treatment 20(50.0%) patients had mild raga and in other 20(50.0%) patients raga was absent. The result

obtained on raga showed statistically highly significant result with 'P' value 0.000.

In the present study it was observed that out of 40 patients, before treatment 2(5.0%) patients had severe pidakas, 23(57.5%) patients had moderate pidakas, 8(20.0%) patients had mild pidakas and in 7(17.5%) patients, the pidakas were not visible, After treatment pidakas were absent in all the 40(100.0%) patients. The result obtained on pidaka showed statistically highly significant result with 'P' value 0.000.

In the present study it was observed that out of 40 patients, before treatment 17(42.5%) patients had severe daha, 5(12.5%) patients had moderate daha, 5(12.5%) patients had mild daha and daha was absent in 13(32.5%) patients and after treatment 13(32.5%) patients had mild daha and in 27(67.5%)

patients daha was absent. The result obtained on daha showed statistically highly significant result with 'P' value 0.000.

In the present study it was observed that out of 40 patients, before treatment 18(45.0%) patients had severe rookshata, 18(45.0%) patients had moderate rookshata and 4(10.0%) patients had mild rookshata and after treatment 6(15.0%) patients had mild rookshata and in 34(85.0%) patients rookshata of skin was absent. The result obtained on rookshata showed statistically highly significant result with 'P' value 0.000.

In the present study it was observed that out of 40 patients, before treatment 25(62.5%) patients had severe udgata mandalas and 15(37.5%) patients had moderate udgata mandalas and after treatment 22(55.0%) patients had mild udgata mandalas and in 17(42.5%) patients udgata mandalas were absent. The result on udgata mandala showed statistically highly significant result with 'P' value 0.000.

Overall assessment reveals that out of 40 patients, maximum 30(75.0%) patients got marked relief and 10(25.0%) patients got complete relief from their complaints.

PROBABLE MODE OF ACTION OF VIDANGADI YOGA AND DARVIGUDUCHYADI KASHAYA :

The relief from kandu experienced in patients is probably due to kandughna, kushtaghna, dadrughna property of vidanga, daru haridra, nimba, chakramarda, triphala, manjishta which are present in Vidangadi yoga and Darviguduchyadi kashaya.

The relief from raga and daha experienced in patients is probably due to pittahara property of triphala, daruharidra, guduchi, katukarohini, manjishta, nimba, durva, chakramarda present in vidangadi yoga and darviguduchyadi kashaya.

The relief from pidaka experienced in patients is probably due to rakta shodhaka property of vidanga, amalaki, vibhitaki, pippali, daruharidra, guduchi, manjishta, durva and tulasi present in the vidangadi yoga and darviguduchyadi kashaya.

The relief from rookshata experienced in patients is probably due to vatahara property of vidanga, triphala, madhu, pippali, guduchi, vacha, chakramarda, tulasi which are present in the vidangadi yoga and darviguduchyadi kashaya.

The relief from udgata mandala experienced in patients is probably due to kaphahara property of vidanga, triphala, pippali, madhu, daruharidra, guduchi, katukarohini, vacha, manjishta, nimba, durva, takra, and shotahara property of haritaki, daruharidra, katukarohini, vacha, manjishta, tulasi which are present in vidangadi yoga and darviguduchyadi kashaya.

PROBABLE MODE OF ACTION OF DURVADI LEPA :

Haritaki:

It acts as tridosha shamaka, kushtaghna, krimighna, shotahara, shonitasthapana.

It consist of various chemical constituents like anthraquinone glycoside, chebulinic acid, tannic acid, terchebin, vit.C, arachidic, behenic, lindeic, oleic, palmitic, chebulin and stearic acids.

Many research works have shown the antibacterial and antifungal spectrum in the extract prepared from the powdered fruits.

Ether extract showed higher antioxidant activity, acid esters present in phenolic fraction of extract were found most effective.

Extracts from the plant showed wide spectrum antibacterial activity and activity against human pathogenic gram positive and gram negative bacteria[6].

Durva:

It acts as kaphapitta shamaka, kushtaghna, varnya, rakta shodhaka, daha prashamana.

It consist chemical constituents like methoxy propionic acid, benzoic acid, phytol, sisterol.

Many research works have proved that durva is a reputed remedy for many skin disorders like tinea, scabies and epitaxis, haematuria etc,

The alcoholic extract of the entire plant showed anti-microbial and anti-viral properties[7].

Saindhava lavana:

It acts as tridoshahara, deepaka and pachaka.

It facilitates the cellular absorption of minerals. It plays an important role in replenishing the body's electrolytes and maintaining the pH balance. By stimulating blood circulation and mineral balance it removes toxic minerals and refined salt deposits. It greatly improves the immune system.

Accumulation of dead skin cells is responsible for causing a rough, dull and aged appearance of the skin. It does not have a drying effect on the skin. Rock salt exfoliates the dead skin cells and protects the natural layer of your skin. It also strengthens the skin tissue to rejuvenate the skin, thus making it look younger and firm[8].

Chakramarda:

It acts as baddhamula dadrughna, kaphavata hara and kandughna.

It consists many chemical constituents like fistucacidin, emodin, rubro fusarin, torosachrysone, isotoralactone, questin, obtisin, obtusifolin, alaternins and cassiaside.

Research works on chakramarda showed various activities as follows

Application of it prevents skin diseases like tinea.

It is used as antiperiodic and anthelmintic.

The leaf extract showed antifungal activity against tinea, microsporon nanum.

Thrachryone, isolated from seeds showed stronger antioxidant activity.

It showed immunomodulatory and antibacterial activity[9].

Tulasi:

It acts as kaphavata shamaka, krimighna, shotahara, twak dosha hara, rakta shodhaka.

It consist various chemical constituents like bornyl acetate, cadinene, camphene, camphor, carvacrol, beta-caryophellene, eugenol, eugenol methyl ether, humelene, methyl chavicol and limonene.

Many research work done on this drug showed the following activities

Essential oil from leaves has antifungal activity.

The ether extract of leaves has antibacterial activity.

Antiviral activity of leaf extract is reported, it showed anti-inflammatory activity.

A study of methanol extract and aqueous suspension of the leaves showed immunostimulation of humoral immunologic response[10].

Takra:

It acts as kaphavatahara, agnideepaka and hridya.

Various research works done on butter milk showed that besides being a natural pro-biotic, buttermilk is rich in lactic acid that is found in many expensive beauty products and is one of the best skin peeler that is used for softening, brightening and exfoliating skin. Because of it's highly acidic and astringent nature, it treats skin spots, marks and freckles and even tightens the skin[11].

Hence, the combined usage of Vidangadi yoga with madhu, Darviguduchyadi kashaya and Durvadi lepa with takra is found to be very much effective in managing all most all types of Dadru vis-à-vis tinea.

CONCLUSION

On the basis of the observations made in the clinical study, the following conclusions were drawn.

- Dadru is tridoshaja vyadhi with pittakapha predominance.
- Symptoms like kandu, raga, pidaka, daha, rookshata, udgatamandala, were the cardinal features of Dadru and they are similar to lesions of tinea
- Dadru is a variety of Kushta which occurs mainly by the krimi upasarga.
- An observational study was conducted on the patients of dadru with vidangadi yoga with madhu as anupana and darviguduchyadi kashaya and Durvadi lepa was made into paste with the help of takra used for external application.
- By the combined effect of vidangadi yoga, darviguduchyadi kashaya and durvadi lepa most of the patients showed significant result in reduction of kandu, raga, pidaka, daha, rookshata, udgata mandala.
- Overall assessment showed complete relief in 10(25.0%) patients and marked relief in 30(75.0%) patients.
- Overall results are statistically highly significant with `P` value of 0.000.

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