EVIDENCE BASED CLINICAL AYURVEDIC MANAGEMENT OF DADRUKUSHTA (DERMATOPHTYOSIS) BY CHAKRAMARDA TAILA

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ABSTRACT

Dadru is one of the most common dermatological conditions encountered in clinical practice. Most of skin diseases in Ayurveda are described under the heading of Kushta. In general clinical practice around 10-20% patients suffer from skin disorders and out of them, fungal infections constitute up to 20%. Dadru is a variety of Kushta with Rasa, Rakta and Mamsadhatu involvement, manifesting with Kandu, Mandala, Raja, Raaga, Rookshata and Pidaka. Chakramarda possesses Katu rasa, Laghu, Ruksaguna, Kapha Vatahara, Varnya, Vashanga, Vranaropana and Kushtagna properties. Chakramardhataila is an Anuboota yoga employed in management of Dadrukushta. Current study includes 42 Patients from O.P.D. of S.D.M. College of Ayurveda and Hospital, Hassan diagnosed to have Dadrukushta based on signs and symptoms. Therapeutic effect was evaluated before, in between and after treatment. The present clinical study has shown Symptoms of Kandu, Raaga and Twakrukshata reduced after application of Chakramarda taila, which were statistically highly significant with P value 0.001. Symptoms of Uthsanna mandala reduced after application of Chakramarda taila. It was also statistically significant with P value 0.002. Pidaka between before treatment to after treatment showed reduced after P value 0.005 which is statistically significant. After Chakramarda taila application on lesion of Dadru Kushta has demonstrated decrease in pathognomonic signs and symptoms, Kandu, Raga, Twakrukshata which was statistically highly significant with P value 0.001 and reduction in Uthsanna mandala, Pidaka which is statistically significant. Hence, application of Chakramarda Taila is an effective treatment modality in management of Dadru Kushta.

KEYWORDS: Dadru Kushta, Dermatophytosis, Chakramarda Taila, Kushtagna property.

INTRODUCTION

Skin is a protective organ which reflects the health of the individual. It is target organ for many infections. In general clinical practices around 10-20% patients suffer from skin disorders of which, fungal infection constitutes up to 20%. Dadru is a variety of Kushta with Rasa, Rakta and Mamsadhatu involvement. Its aetiology includes Aharaja, Viharaja, Chikithsaapacharaja, Upasargaja and Krimija factors. In the present study Krimi can be considered in relation to fungi capable of causing skin Dadru changes, identified as Tinea or Dermatophytosis. Tinea is a group name for a highly contagious, segmented mycelia fungus. Sushrutasamhita mentions, Nidans like Prasanga, Gatrasamsparsha, Nishwasa, Sahabojana, Vastramalyaneulapna causes Upasargajarogas and is one among them. Tinea is analogues to Dadru in contemporary science. Acharya Sushruta describes the colour of the lesions in Dadru, copper or the flower of Atasi and mentions that its Pidaka are in the forms of Parimandala having spreading nature (Visarpanshila) but slow in progress or chronic in nature (Chirrottham) with Kandu.

Chakramarda possesses Katu rasa, Laghu, Ruksaguna, Kapha Vatahara, Varnya, Vashanga, Vranaropana and Kushtagna properties. The drug Chakramarda is indicated in Dadru Kushta, Varnya, Vashaghna, Vranaropana and Kushtagna properties. In Nighantas of Dhanvantari, Raja, Madanapala, Kiyadeva and Bhavaprakasha have mentioned Chakramarda is having Kaphavatasa, Kandughna, Krimighna, and Dadrugha properties. Chakramarda Taila is used as Anuboota yoga as a management modality in patients suffering from Dadrukushta by application on skin lesion.

Objective of the Study

To evaluate the effect of Chakramarda Taila (external application) in Dadru Kushta.

Source of Data: OPD of S. D. M. College of Ayurveda and Hospital, Hassan.

Sampling Method: Convenience sampling method was adopted.

Criteria For Selection of Patient

Inclusion Criteria

Patients fulfilling diagnostic criteria between age group of 15 -75 years of either sex.

Exclusion Criteria

1. Patients associated with other type of Kushta.
2. Patients below 15 years and above 75 years of age.
3. Patients presenting with Dadru Kushta suffering with any other systemic disorders.
4. Lesions with secondary infections.
5. Patients taking immunosuppressive medicines.

Diagnostic Criteria: Patients presenting with Uthsanna mandala (elevated margin), Kandu (itching) and positive
for Dermatophytes (by 10% of KOH, microscopic examination) and with or without following symptoms such as Raja (Pain), Twakrukshata (Dryness of skin), Raga (Erythema), Vivarnatha (Discolouration), Pidaka (Eruption).

**Assessment Criteria:** Assessment was done before intervention, on 8th day and on 15th day based on grading's given for signs and symptoms of Dadrukushta.

**Method of Clinical Study:** Patients fulfilling the diagnostic and inclusion criteria were included for the study. Among included patients, skin scraping was evaluated for presence of Dermatophytes with 10% KOH and observed under microscope. Detailed history was recorded in specially designed case proforma. In the same patients Chakramarda taila was given for external application on lesion and changes were assessed. Chakramarda Taila was applied on the site of Dadru Kushta (Tenia) lesion (quantity sufficient) externally, two times a day, in morning and evening for 15 days. Assessment was done before intervention, on 8th day and on 15th day based on grading’s given for signs and symptoms of Dadru Kushta.

**Kandu (Itching)**
- 0- No Kandu
- 1- Kandu on & off
- 2- Continuous Kandu without disturbance in routine works
- 3- Continuous Kandu with disturbance in routine works

**Mandala (Elevated Margin)**
- 0- No elevation
- 1- Slight elevation that cannot be felt
- 2- Elevation can be felt
- 3- Elevated in all lesions but soft

**Rukshata (Dryness of Skin)**
- 0- No Line on scrubbing by nails
- 1- Faint line on scrubbing by nails
- 2- Lines on scrubbing by nails
- 3- Wards can be written on scrubbing by nails

**Raaga (Erythema)**
- 0- Normal skin colour
- 1- Faint or near to normal skin colour
- 2- Light reddish colour
- 3- Moderate reddish colour

**Pidaka (Eruption)**
- 0- No Pidaka
- 1- Pidaka disappears but discoloration persists
- 2- Pidakain < 3 sqcms in whole affected area
- 3- Pidaka between 3-8 sqcms in whole affected area.

**Effect of Chakramarda Taila on Kandu (Itching)**

<table>
<thead>
<tr>
<th>Parameters</th>
<th>Negative Rank</th>
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<th>Z Value</th>
<th>P Value</th>
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<td>N</td>
<td>MR</td>
<td>SR</td>
<td>N</td>
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<td>SR</td>
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<td>4</td>
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<td>0</td>
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<td>23</td>
</tr>
<tr>
<td>Kandu 8th - 15th</td>
<td>12</td>
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<td>0</td>
<td>0</td>
<td>18</td>
</tr>
<tr>
<td>Kandu BT – AT</td>
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<td>19</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>11</td>
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</tbody>
</table>

Symptoms of Kandu reduced from before treatment (BT) to 8th day with z=2.646 and P value 0.008 which is statistically significant. When Kandu was compared on 8th day with 15th day (Z= 3.364, P value 0.001) which is statistically highly significant and on comparison of reduction in Kandu between before treatment to after treatment (Z=3.905, P value 0.001) is statistically highly significant.

**Method Of Preparation**

Seeds of Chakramarda weighing 6 kgs was taken and washed under tap water in order to remove physical impurities from the drug. The Cleaned & dried Seeds of Chakramarda was pulverized to obtain coarse powder. From above, 5 kgs of coarse powder of Chakramarda was taken. To this 40 litres of Purified water was added and heated on gas stove on Mandagni till it reduced to 1/4th. Then the Kashaya was filtered through a single folded clean cotton cloth. Thus 10 litres of Kashaya was prepared. To this Kashaya, Chakramarda Kalka (625g) and Tilitalata (2.5 l) were added and subjected to Snehapa. Heating was continued on Mandagni for one hour on the first day and allowed for cooling, covered with plate to avoid any contamination. Second day heating was continued for six hours and allowed for cooling and later covered with the plate. In the same way on the third day heating was continued for four hours, till the Samyak siddha lakshanas were obtained. This warm Taila was filtered. Before bottling, Taila was checked for the presence or absence of micro-organisms by culture and microscopic examination. 60 ml of Taila was bottled & labeled as Chakramarda Taila.

**Sneha Siddhi Lakshana**

1) Sneha Kalka became wick like structure when rolled between fingers
2) No cracking sound from oil and Kalka when put over the fire
3) Appearance of Kalka was like black thick foam
4) Colour of oil - Greenish yellow

**Volume of Tilitalata taken:** 2500ml

**Volume of Chakramarda taila obtained:** 2300ml

**Loss of Chakramarda taila on preparation:** 200ml

**Volume loss:** 8%

**RESULTS**

For the present study total 42 patients were screened, out of which 34 patients of Dadru Kushta were registered, among them 30 patients completed the treatment and 04 were drop out. Hence, results of 30 patients are given below.

The obtained results were interpreted in the statistical term as highly significant (HS); P<0.001 and significant (S); P< 0.01-0.001. N= Number of patients, Negative rank- Decrease in symptoms, Positive rank - Increase in symptoms, Ties – No changes, BT- Before treatment, AT- After treatment.

**Table 1: Showing the Wilcoxon test results in reduction of Kandu (Itching)**
Effect of Chakramarda Taila on Twakrukhshata

Table 2: Showing the Wilcoxon test results in reduction of Twakrukhshata

<table>
<thead>
<tr>
<th>Parameters</th>
<th>Negative Rank</th>
<th>Positive Rank</th>
<th>Ties</th>
<th>Total</th>
<th>Z Value</th>
<th>P Value</th>
<th>Significance</th>
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<td>Twakrukhshata BT - 8th</td>
<td>N  8  4.5  36</td>
<td>N  0  0  0</td>
<td></td>
<td></td>
<td>22</td>
<td>30</td>
<td>2.828 0.005</td>
</tr>
<tr>
<td>Twakrukhshata 8th-15th</td>
<td>N 12  6.5  78</td>
<td>N  0  0  0</td>
<td></td>
<td></td>
<td>18</td>
<td>30</td>
<td>3.464 0.001</td>
</tr>
<tr>
<td>Twakrukhshata BT-AT</td>
<td>N 20  10.9 210</td>
<td>N  0  0  0</td>
<td></td>
<td></td>
<td>10</td>
<td>30</td>
<td>4.041 0.001</td>
</tr>
</tbody>
</table>

Symptoms of Twakrukhshata reduced from before treatment (BT) to 8 th day with Z=2.828 and P value 0.005 which is statistically significant. When Twakrukhshata was compared on 8 th day with 15 th day (Z= 3.464, P value 0.001) which is statistically highly significant and on comparison of reduction in Twakrukhshata between before treatment to after treatment (Z=4.041, P value 0.001) which is statistically highly significant.

Effect of Chakramarda Taila on Raaga (Erythema)

Table 3: Showing the Wilcoxon test results in reduction of Raaga

<table>
<thead>
<tr>
<th>Parameters</th>
<th>Negative Rank</th>
<th>Positive Rank</th>
<th>Ties</th>
<th>Total</th>
<th>Z Value</th>
<th>P Value</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Raaga BT - 8th</td>
<td>N  4  2.5  16</td>
<td>N  0  0  0</td>
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<td>26</td>
<td>30</td>
<td>1.852 0.064</td>
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<tr>
<td>Raaga 8th-15th</td>
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<td>30</td>
<td>2.828 0.005</td>
</tr>
<tr>
<td>Raaga BT-AT</td>
<td>N 12  6.5  78</td>
<td>N  0  0  0</td>
<td></td>
<td></td>
<td>18</td>
<td>30</td>
<td>3.464 0.001</td>
</tr>
</tbody>
</table>

There was no reduction observed in Symptoms of Raaga from before treatment (BT) to 8 th day with Z=1.852 and P value 0.064 which is statistically non-significant. When Raaga was compared on 8 th day with 15 th day (Z= 2.828, P value 0.005) which is statistically significant and on comparison of reduction in Raaga between before treatment to after treatment (Z=3.464, P value 0.001) which is statistically highly significant.

Effect of Chakramarda Taila on Uthsanna Mandala

Table 4: Results in reduction of Uthsanna mandala, after treatments

<table>
<thead>
<tr>
<th>Parameters</th>
<th>Negative Rank</th>
<th>Positive Rank</th>
<th>Ties</th>
<th>Total</th>
<th>Z Value</th>
<th>P Value</th>
<th>Significance</th>
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</thead>
<tbody>
<tr>
<td>Mandala BT - 8th</td>
<td>N  03  2   6</td>
<td>N  0  0  0</td>
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<td>27</td>
<td>30</td>
<td>1.732 0.083</td>
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<tr>
<td>Mandala 8th-15th</td>
<td>N  07  4   28</td>
<td>N  0  0  0</td>
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<tr>
<td>Mandala BT-AT</td>
<td>N 10  5.5  55</td>
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<td></td>
<td>20</td>
<td>30</td>
<td>3.162 0.002</td>
</tr>
</tbody>
</table>

There was no reduction observed in Symptoms of Uthsanna mandala from before treatment (BT) to 8 th day with Z=1.732 and P value 0.083 which is statistically non-significant. When Uthsanna mandala was compared on 8 th day with 15 th day (Z= 2.646, P value 0.008) which is statistically significant and on comparison of reduction in Uthsanna mandala between before treatment to after treatment (Z=3.162, P value 0.002) which is statistically significant.

Effect of Chakramarda Taila on Pidaka

Table 5: Results in reduction of Pidaka, after treatments

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Negative Rank</th>
<th>Positive Rank</th>
<th>Ties</th>
<th>Total</th>
<th>Z Value</th>
<th>P Value</th>
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<tbody>
<tr>
<td>Pidaka BT -8th</td>
<td>N  03  2   6</td>
<td>N  0  0  0</td>
<td></td>
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<td>27</td>
<td>30</td>
<td>1.732 0.083</td>
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<tr>
<td>Pidaka 8th-15th</td>
<td>N  05  4   20</td>
<td>N  0  0  0</td>
<td></td>
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<td>25</td>
<td>30</td>
<td>1.134 0.057</td>
</tr>
<tr>
<td>Pidaka BT-AT</td>
<td>N 08  4.5  36</td>
<td>N  0  0  0</td>
<td></td>
<td></td>
<td>22</td>
<td>30</td>
<td>2.828 0.005</td>
</tr>
</tbody>
</table>

There was no reduction observed in Pidaka from before treatment (BT) to 8 th day with Z=1.732 and P value 0.083 and on 8 th day with 15 th day with Z= 1.134 and P 0.057 which are statistically non-significant. When Symptoms of Pidaka between before treatment to after treatment (Z=2.828, P value 0.005) which is statistically significant.

**DISCUSSION**

Chakramarda taila is an Anubhoota yoga used as external application in the management of Dadrukushta (Dermatophytoses). In the context of Chikithsaya for Dadru Kushta, Bahirparimarjana type of treatment is mentioned in the Ayurveda text. In Ayurveda literature, especially Nighantus of Dhanvantari, Raja, Madanapala, Kaiyadeva and Bhavaprakasha have mentioned drug Chakramardha to possess Varnya, Vishaghna, Vranaropana Kushtagna Kaphavatathara, Kandughna, Krimighna, and Dadrugna properties. Chakramarda beja possess Laghu, Ruksha, Teekshnaguna, Katu, Tikta rasa, Ushnevarya and Katuvipaka. It has Kandughna, Kushtagna, Krimighna, Dadrugna and Kaphavatathara properties. The base of Chakramarda taila is Tilataila which is Tridoshahara.

The Rasa plays important role in the Karma of Dravya. Chakramarda is Katu, Tikta rasa pradhan. They exhibit karma due to Panchabhoutic composition. The
Tikta and Katu rasa are Vayu, Agni and Akasha-pradhana. Chakramarda has Laghuguna and Katu, Tikta rasa is Kaphanashaka. Dadru Kushta is Kapha pitta pradhanavyadhi. Chakramarda possess Ushnavereya. Ushnavereya of Chakramarda bestow Kaphashamaka property. These Rasa, Guna, Veerya and Karma of Chakramarda play an important role on Dadru Kushta by Vighatana of Sampreati which further checks the manifestation of Dadru Kushta. Laghu, Ruksa, Teekshna properties of Chakramarda taila acts on Kaphaja attributes like Kandu, Uthsannamadala. Effect on Raaga and Pidaka is due to Varnya, Vishagha properties of Chakramarda taila. Kandughna, Kushtaghna, Dadrughna properties of Chakramarda taila acts on the cardinal symptoms of Dadru Kushta.

30 Subjects were assessed before, in between and after treatment and analyzed statistically using Wilcoxon signed Rank test. The effectiveness of Chakramarda taila on the individual signs & symptoms of Dadrukushta is being discussed here as follows.

**Kandu** - Symptoms of Kandu was complained by all 30 patients. Assessment of Kandu was done before treatment and on 8th day. Kandu reduced on 8th day and on application of statistics Wilcoxon signed rank test, no patients were distributed in positive rank showed that there is no aggravation of Kandu. 07 patients were distributed in negative rank shows that Kandu reduced after application of Chakramarda taila. Further it was statistically significant with P value 0.008. Hence 8 days application of Chakramarda taila is effective in reducing Kandu. When Kandu was compared on 8th day with 15th day, 12 patients were distributed in negative rank shows that Kandu further reduced after application of Chakramarda taila. It was statistically highly significant with P value 0.001 and on comparison of reduction in Kandu between before treatment to after treatment, 12 patients were distributed in negative rank shows that Kandu further reduced after application of Chakramarda taila. It is also statistically highly significant with P value 0.001.

**Twakrukshata** - Symptoms of Twakrukshata was complained by 29 patients. Assessment of Twakrukshata was done before treatment and on 8th day. Twakrukshata reduced on 8th day on application of statistics Wilcoxon signed rank test, no patients were distributed in positive rank showed that there is no aggravation of Twakrukshata. 08 patients were distributed in negative rank shows that Twakrukshata reduced after application of Chakramarda taila. Further it was statistically significant with P value 0.005. Hence 8 days application of Chakramarda taila is effective in reducing Twakrukshata. When Twakrukshata was assessed and compared on 8th day with 15th day, 12 patients were distributed in negative rank shows that Twakrukshata reduced after application of Chakramarda taila. It was statistically highly significant with P value 0.001 and on comparison of reduction in Twakrukshata between before treatment to after treatment, 20 patients were distributed in negative rank shows that Twakrukshata reduced after application of Chakramarda taila. It was also statistically highly significant with P value 0.001.

**Raaga** - Symptoms of Raaga was complained by all 30 patients. 04 patients were distributed in negative rank from before treatment to 8th day. There was reduction observed in Raaga from before treatment to 8th day with P value 0.064 which is statistically non-significant. When Raaga was compared on 8th day with 15th day, 08 patients were distributed in negative rank shows that Raaga reduced after application of Chakramarda taila. It was statistically significant with P value 0.005 and on comparison of reduction in Raaga between before treatment to after treatment, 12 patients were distributed in negative rank shows that Raaga reduced after application of Chakramarda taila. It was statistically highly significant with P value 0.001.

**Uthsanna mandala** - Symptoms of Uthsanna mandala was complained by all 30 patients. 03 patients were distributed in negative rank from before treatment to 8th day. There was reduction observed in Uthsanna mandala from before treatment to 8th day with P value 0.083 which is statistically non-significant. When Uthsanna mandala was compared on 8th day with 15th day, 07 patients were distributed in negative rank shows that Uthsanna mandala reduced after application of Chakramarda taila. It was statistically significant with P value 0.008 and on comparison of reduction in Uthsanna mandala between before treatment to after intervention, 10 patients were distributed in negative rank shows that Uthsanna mandala reduced after application of Chakramarda taila. It was also statistically significant with P value 0.002.

**Pidaka** - Symptoms of Pidaka was complained by all 30 patients. 03 patients were distributed in negative rank from before treatment to 8th day with P value 0.083. Pidaka was compared on 8th day with 15th day, 05 patients were distributed in negative rank with P value 0.057. There was reduction observed in Pidaka from before treatment to 8th day and on 8th day with 15th day. But was statistically non-significant. However Pidaka between before treatment to after treatment showed reduction with P value 0.005 which is statistically significant.

From the discussion of above results it is clear that Chakramarda taila application for 15 days on lesion of Dadru Kushta has demonstrated decreased in pathognomonic signs and symptoms Kandu, Raaga, Twakrukshata which was statistically highly significant and Uthsanna mandala, Pidaka showed statistically significant. Chakramarda taila possess Kaphavatashamaka, Varnya, Vishagha, Dadrughna properties. Therefore Chakramarda taila application is effective in reducing pathognomonic of Dadrukushta. Hence Chakramarda taila application twice daily for 15 days is beneficial in Dadrukushta as Upashaya.

**CONCLUSION**

In the present clinical study, Chakramarda taila application for 15 days on lesion of Dadru Kushta has demonstrated decrease in pathognomonic signs and symptoms Kandu, Raaga, Twakrukshata which was statistically highly significant and reduction in Uthsanna mandala, Pidaka which is statistically significant. Therefore Chakramarda taila application on Dadrukushta lesions for 15 days is beneficial in reducing pathognomonic of
Dadrukushta. Hence, from this study it is concluded that application of Chakramarda Taila alone on lesion is an effective modality in management of Dadru Kashta.

REFERENCE

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