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A Systematic review of management of Dadru (Tinea) as per Ayurveda

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Abstract---Background-*Dadru* is one of the type of *Kustharogas*. It is a disease of *Raktavahastrotas* (channel). The *Dosha* predominance in *Dadru* is *Kapha-Pitta*. It exhibits clinical features of *Kandu*, *Raga*, *Pidika*, *Utsanna Mandala*. On basis of clinical features *Dadru* is simulated with *Tinea* by many scholars. *Tinea* is superficial fungal infection in which the fungi colonises dead keratinized epidermal tissues of skin, hair and nails and produces annular lesions over skin surface. It can be managed by specific *Shodhan* (purification) and *Shaman* (conservative) therapy which form pillars of Ayurveda treatment. Fungal infections occupy a major component among skin diseases, and currently up to 21% of the world's population may be infected by Ringworm alone. Therefore it is necessary to find a solution for it through Ayurveda. Thus the aim of the study is to review and discuss various measures for Ayurvedic management of *Dadrukushtha* (*Tinea*). Material and Methods- The classical texts of Ayurveda and modern medicine, Journals and Research articles from Google scholar, Pubmed, etc were selected for study. Conclusion- *Dadru* can be managed effectively by *Lepachikitsa* that is local application of various medicated herbs. It is a relapsing disease and long term therapy is required.

Keywords---Kushtha, Dadru, Lepa, Kanji, Chakramarda.

Introduction

Skin is a vital sense organ of our body which executes various physiological functions and it also prevents invading pathogens. Skin and its appendages are the most visible part of our body and any skin disease will create an emotional concern for an individual. Skin diseases can affect an individual at any age. Common psychological problems associated with skin disease include feelings of stress, anxiety, anger, depression, shame, social isolation, low self-esteem and embarrassment.⁽¹⁾ There is a wide and detail description of skin diseases in Ayurveda. Under the broad heading of *Kustha*, various skin related disorders have been explained in Ayurveda literature. *Kustha* is also considered as one of the *ashtamahagada*(eight dreadful diseases)⁽²⁾⁽³⁾. *Kushtha* is a *Tridoshajavyadhi*.⁽⁴⁾ There is presence of *Krumi*(worms) alongwith *Tridosha* in formation of *kushtha* and the symptoms are seen according to dominance of *dosha*.⁽⁵⁾ There are eighteen types of *Kustharogai*.e. 7 *Mahakushtha*(major) and 11 *Kshudrakushtha*(minor) which commonly accepted.

'*Dadru*' is a type of *Kushtha*⁽⁶⁾ which is explained by Acharya Charaka in '*Kshudrakushtha*(minor)⁽⁷⁾ whereas Acharya Sushruta and Acharya Vagbhata have labelled under '*Mahakushtha*(major)^(8,9). In *Dadru* there is *pradhanata* of *Kapha* and *Pitta Dosha*⁽¹⁰⁾. It exhibits clinical features of *Kandu*, *Raga*, *Pidika*, *Utsanna Mandala*. On basis of clinical features *Dadru* is simulated with Tinea by many scholars. Tinea is superficial fungal infection in which the fungi colonises dead keratinized epidermal tissues of skin, hair and nails and produces annular lesions over skin surface. Microsporon, trichophyton and epidermophyton are three types of dermatophytes responsible for various infections. Poor hygiene, malnutrition, tropical climate, contact with infected person, immunosuppressive disease all predispose to infection. Dermatophytes are fungi that invades and multiply within keratinized tissue like skin, hair and nails causing infection. Dermatophytes are classified into three groups i.e. Trichophyton, Epidermophyton, Microsporum. They also classified as *tinea capitis* (head), *tinea faciei* (face), *tinea barbae* (beard), *tinea corporis* (body), *tinea manus* (hand), *tinea cruris* (groin), *tinea pedis* (foot) and *tinea unguium* (nail). There is increasing prevalence of cutaneous dermatophytosis across the world and especially in tropical and subtropical countries like India there environmental temperature and relative humidity are high. In metropolitan cities the factors like use of occlusive footwear, tight fashioned cloths are the causes. All people are not equally susceptible to infection as even they have similar risk factor. Familial or genetic predisposition may affect adaptive and innate immunity. The pathogenesis of dermatophytes infection has correlation between host, agent and environment. People suffered from diabetes mellitus, lymphomas, immune-compromised status, older age produce severe wide spread of dermatophytes.⁽¹¹⁾

Due to changing life style and food habits there is increased incidence of *Dadru* in practice and other systems fail to find a permanent solution for it. Almost 12.4% amongst the total diseases come for treatment is related to skin. ⁽¹²⁾ Fungal infections occupy a major component among this, and currently up to 21% of the world's population may be infected by Ringworm alone. Therefore it is necessary to find a solution for it through Ayurveda. Thus the aim of the study is to review and discuss various measures for Ayurvedic management of *Dadrukushtha* (Tinea).

Materials and Methods

The classical texts of Ayurveda and modern medicine, Journals and Research articles from Google scholar, Pubmed, etc were selected for study.

Observations and Results

Research articles on Ayurvedic management of *DadruKushta* from year 2015-2020 are as follows:

Sr. No.	Year	Author and Journal name	Title of study	Grouping	Results
1.	June 2015	Ittoop J Ancheril et al IAMJ: Volume 3; Issue 6; June-2015.	A Comparison Of <i>BhallatakadiLepa</i> and <i>GandhakaMalaharaLepa</i> In The Management Of <i>DadruKushta</i>	Gr. A (15)- External application of <i>BhallatakadiLepa</i> with <i>Sheetajala</i> Q.S. twice daily for 21 days. Gr. B (15)-External application of <i>Gandhakamalahara</i> with <i>Sheetajala</i> Q.S. twice daily for 21 days.	<i>BhallatakadiLepa</i> with <i>Sheetajala</i> has shown 70% change in <i>Kandu</i> during 21 days of study period. Blackish discoloration of skin, burning sensation and blisters also developed over lesions. Whereas <i>Gandhakamalahara</i> has shown 80% change in <i>Kandu</i> and also other symptoms like <i>Utsanna mandala</i> , <i>Raga</i> , <i>Pidaka</i> without any complications.
2.	July-Aug 2015	Deepika Thakur et al AAMJ 2015; 1: 213-19	Effect of <i>AragvadhaPatra</i> and <i>Kalka</i> and <i>ArnalaLepa</i> with and without <i>Chakramarda</i> seed Powder in <i>Dadru</i> .	Gr.1(20)- <i>Aragvadha</i> + <i>Arnala</i> fresh lepa Q.S. twice daily for 21 days Gr.2(20)- <i>Aragvadha</i> + <i>Arnala</i> fresh lepa Q.S. <i>Chakramarda</i> seed powder internally 1gm twice daily with water for 21 days	Both groups gave significant results in <i>Dadru</i> . Recurrence was found in group 1 but not in group 2.
3.	August-2015	SourabhDeshmukh IAMJ: Volume 3; Issue 8; August-2015	A Clinical Study Of <i>EdagajadiLepa</i> In The Management Of <i>DadruKushta</i> .	Single Gr. (30)- <i>EdgajadiLepa</i> Q.S. for local application with <i>Kanji</i> twice daily for 30 days.	<i>Edagajadilepa</i> showed significant result after treatment in <i>Kandu</i> , color of <i>mandala</i> , no of <i>pidika</i> , no of <i>mandala</i> variables and the efficacy of the treatment was highly significant even during follow up and without any complications.
4.	August-2015	AbhilashPtet.al IAMJ: Volume 3; Issue 8; August-	Efficacy Of <i>ShirishaTwakLepa</i> In The Management Of	Single Gr. (30)- <i>ShirishtwakLepa</i> Q.S. for local application	<i>Shirishatwaklepa</i> was effective in reducing the <i>Kandu</i> , <i>Pidaka</i> etc but in

		2015	<i>Dadru</i>	with cold water twice daily for 21 days.	some cases <i>Twakrookshatagot</i> slightly increased during the treatment; it may be because of the <i>Ruksha</i> property of the drug. No any side effects were seen.
5.	May - June 2016	Melashankar et al Journal of Ayurveda and Integrated Medical Sciences May - June 2016 Vol. 1 Issue 1	Efficacy of <i>LaghuManjisthadiKwatha</i> and <i>ChakramardadiLepa</i> in <i>Dadru</i> (Tinea)	Single Gr. (40)- <i>ChakramardadiLepa</i> Q.S. for local application with <i>Kanji</i> twice daily for 30 days.	Both the <i>LaghuManjisthaKwatha</i> and <i>ChakramardadiLepa</i> showed highly significant result but after followup there were few cases of recurrences which indicated that the <i>Krimi</i> can't be eradicated so easily. The maintenance of hygiene is a very important issue and not to be neglected during treatment.
6.	August 2017	AnomaGeethaniSamarawickrama et al IJAPR August 2017 Vol 5 Issue 8	Evidence based clinical ayurvedic management of <i>Dadrukushta</i> (Dermatophytosis) by <i>ChakramardadiTaila</i>	Single Gr. (30)- <i>ChakramardadiTaila</i> Q.S. for local application twice daily for 15 days	Application of <i>ChakramardadiTaila</i> alone on lesion is an effective modality in management of <i>DadruKushta</i> .
7.	June 2020	Dr.AbhijeetManmath Morale. Aayushi International Interdisciplinary Research Journal (AIIRJ)	Efficacy of <i>Arangwadhpatra</i> on <i>Dadru</i> W.S.R. to Tinea	Single Gr.(20)- <i>ArangwadhpatraChurna</i> a mix with <i>Kanji</i> and apply over affected area For 30 days.	<i>Arangwadhpatra</i> shows significant result to reduce <i>Kandu</i> , colour of <i>mandala</i> .
8.	August 2020	Ravindra et al WORLD JOURNAL OF PHARMACY AND PHARMACEUTICAL SCIENCES Volume 9, Issue 3, 1448-1456	Assessment of the <i>DurvadiLepa</i> in the management of <i>Dadru</i>	Single Gr. (30)- <i>DurvadiLepa</i> Local Application of <i>DurvadiLepa</i> Twice in a day as required (Approx. 10 gram) on the affected area for duration of 1 month.	<i>DurvadiLepa</i> along with proper <i>pathya-apathya</i> and proper hygiene practices is effective in management of <i>Dadru</i> . No side effects were seen.
9.	October 2020	Ashwini, WaheedaBanu IJAPR ,October 2020, Vol 8, Issue 10	Combined Effect of <i>DadrughnaLepa</i> And <i>PittakustaharaKashaya</i> In Management of <i>Dadru</i> (Tinea)	Single Gr. (50)- <i>DadrughnaLepa</i> Q.S. for local application with <i>Kanji</i> twice daily for 30 days and <i>PittakustaharaKashaya</i> 50 mL per oral twice daily for 30 days.	Overall effect of treatment in <i>Dadru</i> observed are; Highly significant results obtained at $p < 0.05$ were obtained with respect to <i>Kandu</i> (75.61%), <i>Raga</i> (79.61%), <i>Daha</i> (83.12%), <i>Pidaka</i> (84.21%), <i>Rookshata</i> (53.66%), <i>Udgata</i> <i>Mandala</i> (71.43%), Size and No.

					of Lesions (67.82%).
10.	December-2020	Dr. Manish Chavhan WutanHuatanJisuanJishu Volume XVI, Issue XII, December-2020	Effectiveness of <i>KasamardamulaLepa-Gutika</i> with and without <i>Haritaki yoga</i> in Management of <i>Dadru</i> (Tinea corporis).	Gr. A (15)- <i>KasamardamulaLepa-Gutika</i> Q.S. for local application with <i>Kanji</i> twice daily for 21 days and <i>Haritaki Yoga</i> 3gm at night with warm water for 21 days. Gr. B (15)- <i>KasamardamulaLepa-Gutika</i> Q.S. for local application with <i>Kanji</i> twice daily for 21 days	<i>KasamardamulaLepa-Gutika</i> is effective in the management of <i>Dadru</i> and it gives better results if combined with <i>AbhyantarChikitsa</i> like <i>Haritaki Yoga</i> for <i>Nityavirechana</i> . No any adverse effect of <i>KasamardamulaLepa-Gutika</i> and <i>Haritaki yoga</i> was observed in the study.

Discussion

Dadru is manifested by appearance of discoid lesions within tractable itching. These diseases are chronic in nature, relapses after successful treatment is common & hence difficult to cure. It mostly occurs in those people who don't follow the hygienic norms or those who are immuno-compromised. *Dadru* is *Kapha* dominant disease besides its *Rasagata* manifestation. The disease mainly involves only *Rasavaha* & *Raktavaha Srotas* without further involvement of successive *Srotas*. When *Dadru* covers large area of body and patient comes in chronic condition; internal medicines should also be added for fast response and to avoid the recurrence. *Acharya Sushruta* has described their treatment as application of *Shodhana Lepa*. *Lepa* is included under *Bahiparimarjanachikitsa* (external therapies). This therapy is specially meant for the *Twakgata vikaras* (skin diseases). The *Lepachikitsa* also facilitates the expulsion of the *Doshas* locally.

Bhallatakadilepa contains *Bhallataka*, *Vatsanabha*, *Chitraka* and *Aragvadha*. In *Ashtangasangraha* Uttara sthana 8, *Acharya Vagbhata* has mentioned about the uses of *Vishadravya* and explained that the *Vishadravya* can be used to cure skin ailments if properly prepared. There are many *Agadayogas* which if properly purified will act as *Rasayana*. The *Agadayogas* which are having *Ushna*, *Teekshna* and *Vyavayi* properties will help in the removal of diseases from the body and these *yogas* mainly act because of its *Prabhava*. But it was observed that the lesions developed blackish discoloration on application of *Lepa* and also blister formation and burning sensation was also observed. It may be due to *teekshana* and *ushnaguna* and hence it should be cautiously used. Its properties are *laghu*, *rookshaguna*, *ushnaveerya*, *tridosha*hara, *kushtaghna* and *krimighna* which act on *Dadru kushta*. *Laghu*, *rookshaguna*, *ushnaveerya* properties of *Bhallatakadilepa* allows the toxins localized to go out through the *sweda*, thus clearing out the micro channels of skin by removing the obstruction in the *Swedavahi Srotas*.^(13,14,15,16)

The contents of *Edagajadi Lepa* are seeds of *Chakramarda*, *Kushta*, *Sarshapa*, *Vidanga* and *Saindhavalana* mixed with *Sauveerkam*. The *Ruksha* and *Lekhana* property of *Edgajadi Lepa* eliminates the *Kapha Doshas* locally. The

Suskshmaproperty of *Sauveerakam* facilitates penetration of drug into deeper *Srotas* and remove the *Sanga*.⁽¹⁷⁾ The *Agnideepan* property of the *Lepa* causes *Dhatwagni* of *Rasa* and *Raktato* be corrected to some extent. This resolves the impending *Dhatushaithilya* and provide nourishment to the skin.⁽¹⁸⁾ *Shishirtwakchurnalepa* possess *Laghu*, *Ruksha* and *Teekshnaproperties*⁽¹⁹⁾ which pacify the *Dushtakapha* and helps in reducing *Kandu* and *Utsanna mandala*. The *Varnya* and *Kushtaghna*⁽²⁰⁾ properties of *Shirish* which is main ingredient of *Lepa* is useful in reduction of *Raaga*, *Pidika* and *Twakrukshata*.

The contents of *ChakramardadiLepa* are the seeds of *Chakramarda*, *Kushta*, *Sarshapa*, *Vidanga* and *SaindhavaLavana* which is mixed with *Kanji*. It thus possess properties of *Ushna*, *Tikshna*, *Laghu*, *Ruksha*, *Vishada*, *SookshmaGuna*, *UshnaVirya* and *KatuVipaka*. It acts on aggravated *kaphadosha* which is mainly responsible for manifestation of *Dadru* and hence alleviates the symptoms. The ingredients of *LaghuManjistadiKwathaare Manjistha*, *Haritaki*, *Vibhitaki*, *Amalaki*, *Katuki*, *Vaca*, *Devadaru*, *Haidra* and *NimbaTwak*. On internal administration it pacifies *Kaphadosha* due to *Kashaya*, *Tikta*, *Katu Rasa*, *LaghuRukshaGuna*, *UsnaVeerya*. It is *Raktashodaka*, *Samsrana*, *PittaKaphahara* and hence purifies the *Rasa* and *RaktaDhatu* and acts as *Kushtaghna* by *sampraptivighatana*.

ChakramardaTaila is an *anubhoota* yoga used in management of *Dadru*. *Chakramarda* possess *Laghu*, *Ruksha*, *Teekshnaguna*, *Katu*, *Tikta rasa*, *Ushnaveerya* and *KatuVipaka*.⁽²¹⁾ It has *Kandughna*, *Kushtaghna*, *Krimighna*, *Dadrughna* and *Kaphavataharaproperties*. *TilaTaila* which is used as base is *tridoshashamaka*. Hence its local application alleviates the *kapha* and *pitta dosha* and acts as *Dadrughna*. *DurvadiLepa* which has ingredients *Durva*, *Chakramarda*, *Tulasi*, *Haritaki* and *Saindhavlavana*. It reduces *Kandu* due to its *Kandughna*, *Kushthghnaproperties*. Whereas *Dahaprashamana*, *Tvachya* and *Varnya* properties help to reduce *Raaga* and *Pidika* which are cardinal manifestations of *Dadru*.

DadrughnaLepa as per *SharangadharaSamhita* is prepared using *Doorvachoorna* and *Nishachoorna* in equal quantity.⁽²²⁾ This *Choorna* is mixed with lime juice just before application to make thick paste. It reduces *Kandu* due to its *Kandughna*, *Kushthghna* properties. Whereas *Dahaprashamana*, *Tvachya* and *Varnya* properties help to reduce *Raaga* and *Pidika* which are cardinal manifestations of *Dadru*. The *Pittakushtahara Kashaya* is mentioned in *Charaksamhita* in *Kushtachikitsa*. It contains *PatolaYastimadhuLodhra*, *Padmaka*, *Nimba* and *Raktachandana*. On internal administration it pacifies *Kaphadosha* due to *Kashaya*, *Tikta*, *Katu Rasa*, *LaghuRuksha Guna*, *Usna Veerya*. It is *Raktashodaka*, *Samsrana*, *Pitta Kaphahara* and hence purifies the *Rasa* and *Rakta Dhatu* and acts as *Kushtaghna* by *sampraptivighatana*.⁽²³⁻²⁸⁾

Kasamardamula Lepa is mentioned in *Gadanigraha* for treatment of *Dadru*. It contains *Kasamardamula* and *Kanji*. It possesses *Kushthaghna*, *Tridoshashamaka*, *Raktavikarnashak* properties. *Tridoshashamak* property help in alleviating aggravated *Doshas*, *Kandughna* property help in reducing *Kandu*. *Kushthaghna* property helps in correction of vitiated *Doshas* and *Dushyas* like *Rakta*, *Mamsa*, *Rakta* and *Lasika* at affected area thus helps in breaking *samprapti*. *Haritaki Yoga* which contains *Haritaki* processed in *Gomutra* is mentioned in *Gadanigraha* in

treatment of *Dadru*. *Madhur*, *Amla*, *Katu*, *Tikta* and *Kashay* *rasa* and has predominance of *Laghu*, *Ushna*, *Tikshna* and *Ruksha* *Gunas*. *Haritaki* possesses *Kushthaghna*, *Kandhughna*, *Virechak*, *Tridoshghna* and *Rasayana* properties. In all classical texts, Acharyas mentioned repeated *Shodhana* for elimination of *Doshas* in the Management of *Kushtha*, *Dadru* is one of them. *Dadru* has tendency of recurrence and is chronic in nature, to avoid this recurrence, repeated *Shodhana* is necessary for elimination of aggravated *Doshas*.³⁷⁻⁴⁰

In the above studies it was found that *Dadru* mostly occurs in superficial layers of skin and is not deep rooted. It affects the *Rasa* and *Rakta* *Dhatu* primarily sparing *Mansa* and other *Dhatu*. So most of the scholars have used *Lepachikitsa* (external application) as the sole treatment modality and have yielded significant results. 6 out of 10 scholars have used *Kanji* as a vehicle for external application of *Lepa* and found that it does better absorption of *Lepa* into the skin. Among the *Lepas* used *Chakramarda*, *Aragwadha*, *Shishira*, *Kasamarda*, *Durva* are the main ingredients which possess properties of *Kaphghna* and *Pittaghna* and also act as *Kushtaghna*, *Kandughna* and *Krimighna* properties and hence they help in breaking the pathogenesis of the disease and relieve the symptoms. Regarding duration of the *Lepa* therapy it was found that *Lepa* was prescribed by all the scholars for twice in a day. It was suggested to put the *Lepa* on the skin till it completely dries and then rinse off well with water.

The total duration of the therapy given was ranging from minimum of 15 days to maximum of 30 days without interruptions in between, thus giving the idea that 15 to 30 days therapy is required for remission of *Dadru*. In some patients, recurrence of *Dadru* occurred when only local application was used alone as therapy. This suggested that internal medicine for *Dadru* is also needed to avoid recurrence^(29,36). When *Dadru* covers large area of body and patient comes in chronic condition; internal medicine should also be added for fast response and to avoid the recurrence. Medications like *Laghumanjisthadikwath*, *Chakramardabeejachurna* were used in the studies which act as *Raktashodhan* and *Raktaprasadan* action. *Gomutra Siddha Haritaki* is *Anulomak* action and when given internally causes *Nityavirechan* which is a treatment modality described in management of *Kushtha*. Thus medications like *EdgajadiLepa*, *Aragwadhakalka*, *Bhallatakadilepa*, *Kasmardamulalepa*, *Durvadilepa* can be effectively used for local application in management of *Dadru*. Internal administration of *Gomutra siddha haritaki*, *Laghumanjisthadikwath* and *Chakramarda Beeja Churna* can be done to avoid recurrence and for rapid improvement of symptoms.

Conclusion

Dadru is a type of *kushtha* which is *kapha pitta pradhan* in nature. It produces symptoms of *Kandu*, *raaga* and *mandala utpatti* on skin. It can be correlated with dermatophytosis as per modern science which is a superficial skin infection caused due to fungus. It is *sankramika* means it can be transferred from one person to another. The disease is prevalent in tropical climate, low socio-economic class where personal hygiene and sanitation is poor. It can be managed effectively by *Lepachikitsa* that is local application of various medicated herbs. It is a relapsing disease and long term therapy is required. Various medicines for

internal administration should also be used to prevent its relapse. Thus Ayurveda can be used effectively in management of *Dadru*.

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