

MANAGEMENT OF DADRU KUSHTA (FUNGAL INFECTION) IN AYURVEDA- A REVIEW ARTICLE

¹*Dr. Sonali Dilip Wairagade, ²Dr. Anuja Vasant Nagrare and ¹Miss. Tanvi Dilip Wairagade

¹Associate Professor, Department of Kayachikitsa, Datta Meghe Ayurved Medical College Hospital and Research Centre, Wanadongri, Nagpur.

²Associate Professor, Department of Agadtantra, Datta Meghe Ayurved Medical College Hospital and Research Centre, Wanadongri, Nagpur, Maharashtra.

³MBBS Third Year (Major), HBT Medical College and Dr. R N Cooper Hospital Mumbai, Maharashtra.

Article Received on
14 May 2020,

Revised on 04 June 2020,
Accepted on 25 June 2020,

DOI: 10.20959/wjpr20207-17989

*Corresponding Author

Dr. Sonali Dilip

Wairagade

Associate Professor,
Department of Kayachikitsa,
Datta Meghe Ayurved
Medical College Hospital
and Research Centre,
Wanadongri, Nagpur.

ABSTRACT

Skin is the human body's most significant and the most important organ, since it defends the body from invading pathogens. On the other hand skin is susceptible to infection with superficial fungi. According to the WHO the prevalence rate for superficial mycotic infection is 20-25 percent.^[1] Fungi that are pathogenic to humans and affect their skin and diseases are known as dermatophytoses, or dermatomycoses. Fungi are capable of living in dirt, soil, water, and plants. There are also several fungi living in the human body, obviously. There are beneficial fungi and harmful fungi, as are other microbes. When harmful fungi invade the body, they can be hard to kill as they can survive in the environment and re-infect the person who is trying to improve. In this article, we look at who is at greatest risk of fungal infection and what are the symptoms and treatment options. In *Ayurveda* all skin diseases under

the broad heading of *kushta* have been discussed and clinically it is close to the symptoms of Tinea Corporis. *Kushta* means that which is certain to destroy and that which produces discoloration over the region of the skin. In the category of *Maha kushta* the *Mandala Kushta* described and its signs closely resemble that of mycotic infections. There are two lines of treatment per *Ayurvedic* management line — *Shamana* and *Shodhana*. These can be largely monitored through personal hygiene and supportive therapy.

It's widely found in society.

- It had been included under *Mahakushta* by *Aacharya Sushruta* and *Vagbhata*.
- It was explained by *Aacharya Charaka*, under *Kshudra Kushta*.

KEYWORDS: Tinea corporis, Dadru, Kushta, Ayurveda, Virechana, Panchkarma.

INTRODUCTION

Skin is the most important organ of the human body. It serves as physical barrier between internal and external organs. Under *Kushta* all of the skin diseases in *Ayurveda* were considered.

Kushta is classified under two categories- 11 *Kshudra Kushta* and 7 *Maha Kushta* for the purpose of diagnosis as well as treatment. The word *kushta* means that which destroy with certainty or which comes out from the inner part to the outer part. Also one which produces discolouration over skin region is said to be *kushta*.

Causative factors for all skin disorders according to *Ayurveda* are as follows

- *Mithyahara vihara* (Improper and irregular diet habits)
- *Dosha vaishamyan* (Vitiation of the Biological forces)
- *Srotavarodham* (Obstruction of the channels)
- *Vegadharana* (Suppression of natural urges)
- *Viruddhahara* (Incompatible diet)
- *Krimi* (Infections)
- *Manovikaras* (Emotional stress factor)

According to *Acharya Charak* due to these *nidana*, *tridoshas* vitiate simultaneously with the *sithilatha* of *dhatu*s. These vitiated *doshas* vitiate the *dhatu*s such as *twak*, *raktha mamsa* and *lasika* which are called *dushyas* in the *samprapti* of *kushta*. Thus the disease manifests. According to *Vagbhata* aggravated *doshas* get lodged in *tiryak siras* and vitiate the *dushyas*. This produce *sithilatha* in the *dhatu*s resulting in the manifestation of *kushta*.

Tinea corporis is a superficial fungal infection of the arms and legs, but it can also occur in any other part of the body.^[2] Classically, the lesions are annular, erythematous, scaly with a well-defined edge.^[3] *Microsporum canis* and *Trichophyton verrucosum* are typical culprits

and are zoophilic.^[4] It displays extreme itchy, circular or irregular lesions with well-defined active borders consisting of papulo vesicles.^[4] In Modern Medicines, it is treated with topical or systemic antifungal, corticosteroids give very speedy relief in such conditions but comes with a lot of side effects and later with reappearance of the disease.

Ayurvedic literature view

Aacharya Sushruta has included *Dadru Kushta* in *Maha- kushta* may be because of its widely occupying lesions and quick invading nature.^[5]

Aacharya Charaka has considered *Dadru* under *Kshudra Kushta*. Unhygienic conditions, poor sanitation and use of infected clothes etc. helps to worsen the condition.

According to *Aacharya Charaka*, reddish coloured *Pidika* are *Raga* (erythema), *Kandu* (itching), in the form of *Utsana Mandala* (elevated circular lesion) is known as *Dadru*.^[6]

Incompatible food, inhibition of Natural urges, sleeping in the day time, intake of extreme oily, spoiled and spicy food are some of the causative factor of *Kushta*. All *Kushtas* are *Tridoshaja*.^[7]

Aacharya Sushruta has described *Dadru* as *Kapha Pradhana Vyadhi* and *Aacharya Vagbhata*^[8] and *Charaka*^[9] described it as *Piita- Kapha Pradhana Dosha*. *Kushth* is one of the *Bahu-doshavastha vyadhi*. In such conditions *Shodhana* is advised e.g. *Vamana*, *Virechana* and *Rakta Mokshana*, depends upon *Doshadhikyata*.

Here *Dadru* is *Kapha- Pitta Pradhana* condition. In such condition *Virechana* is advised.

Sushrutacharya has advised *Virechan* in every month in *Kushta*^[10]

➤ Nidan for Dadru

Acharyas not explained separate *nidana* for *dadru kushta*. But *dadru kushta* spread person to person by *malaja krimi* through *sweda* (contact with infected person, contact with clothes of infected person etc.).^[11] Due to the sharing of towels, bed sheets, soap, handkerchief etc of infected person causes the spreading of micro-organism from one person to another person.^[12]

Dadru which is likely similar to fungal infection of skin in which the fungal spore has been transferred from diseased person to healthy person by above given methods.

➤ **Samprapti**^[13]

Sharing bed and clothes of infected person(contagious) (*sankramika*)



Sankramika of *krimi* from *purusha* to *purusha* (*Malaja –Bahya Krimi*)



That *krimi* entered into *twak* through *sweda* and vitiates *Tridosha*, *Twak*, *Rakta* and *Lasika*



Dadru kushta (*sitha Kandu*, *Pidika*, *Raaga*, *Mandala*, *Visarpini*)

Table no.1: The secondary causes of *dadru kushta* (fungal infection) as per *Ayurveda* science.

Mithya Ahara	Ch.S ^[14]	Su.S ^[15]	B.S ^[16]	H.S ^[17]	M.N ^[18]
Adhyashana	+	+	-	+	+
Vishamashana	+	+	-	-	-
Atyashana	+	+	-	-	-
Intake of food during indigestion	+	+	-	-	+
Continuous and excessive use of Madhu, Fanita, Matsya, Lakucha, Mulaka, Kakamachi, and intake of above substances while having <i>Ajirna</i>	+	-	-	-	-
Excessive <i>Snehana</i>	-	-	-	-	-
<i>Vidahi</i> Ahara without emesis of undigested food	+	-	+	+	-
<i>Rasatah</i>					
Excessive intake of <i>Amla</i> and <i>Lavana Rasa</i>	+	-	-	-	+
<i>Dravyataha</i>					
Excessive intake of <i>gramya</i> , <i>anupa</i> , <i>audaka</i> , <i>mamsa</i>	-	-	+	-	-
<i>Navanna</i> , <i>dadhi</i> , <i>masa</i> , <i>matsya</i> , <i>mulaka</i> , <i>tila</i> , <i>pishtanna</i> , <i>kshira</i> , <i>guda</i>	+	-	-	-	+
<i>Dushivisha</i>	-	+	-	-	-
<i>Dushita Jala</i>	-	-	-	+	-
Excessive <i>Dravya</i> , <i>Snigdha Ahara</i>	+	-	-	+	+
<i>Guru Ahara</i>	+	+	-	-	+

Abbreviations: **Ch.S**- Charak Samhita, **Su.S**.- Sushrut Samhita, **B.S**.- Bhel Samhita, **H.S**.- Harit Samhita, **M.N**.- Madhav Nidan

➤ **Dosha dushya sankalpna****Table no 2: Doshas, dushya, strotas, adhistan involved according to various Acharayas.**

	Charaka	Shusruta	A.H	A.S	M.N
Dosh	<i>Pitta-kapha</i>	<i>Kapha</i>	<i>Kapha-pitta</i>	<i>Kaphapitta</i>	<i>Kapha-pitta</i>
Dushya	<i>Twak, Rakta, Mansa, Ambu</i>	<i>Twak, Rakta, Mansa, Ambu</i>	<i>Twak, Rakta, Mansa, Ambu</i>	<i>Twak, Rakta, Mansa, Ambu</i>	<i>Twak, Rakta, Lasika, Ambu</i>
Strotas	<i>Rasa, Rakta</i>	<i>Rasa, Rakta</i>	<i>Rasa, Rakta</i>	<i>Rasa, Rakta</i>	<i>Rasa, Rakta</i>


Abbreviations: **A.H.**-Ashtanga Hridaya, **A.S.**-Ashtanga Sangraha, **M.N.**- Madhav Nidan**Table no. 3: Sign & symptoms of dadru kushta according to various Acharayas and Modern Science.**



Sr.no	Sign & symptoms	Charaka	Shusruta	A.H	A.S	M.N	Yogratnakar	Modern
1.	<i>Kandu(itching)(pruritus)</i>	+	-	+	+	+	+	+
2.	<i>Raga(redness)(erythema)</i>	+	-			+	+	+
3.	<i>Atasi pusp vat pidika(macular rashes similar to flax flower)</i>	-	+	+	-	-	-	-
4.	<i>Tamra varna pidika(copper coloured macular rashes)</i>	-	+	-	-	-	-	-
5.	<i>Visarpani pidika(diffused macular rashes)</i>	-	+	+	+	-	-	-
6.	<i>Dirgha pratana (tendrill like macular rashes)</i>	-	-	+	+	-	-	-
7.	<i>Unnata mandala (raised border ring)</i>	-	-	+	+	+	-	-
8.	<i>Scaling</i>	-	-	-	-	-	-	+
9.	<i>vesiculations</i>	-	-	-	-	-	-	+

Abbreviations

A.H-Ashtanga Hridaya, A.S.- Ashtanga Sangraha, M.N.- Madhav Nidana.

➤ **Differential diagnosis of Dadru:****Table no. 4: Shows the Differential diagnosis of dadru(fungal infection).**

Disease	Symptoms	Diagram
Vicharchika (Eczema)	<i>Bahusraava yukta pidika originate in vicharchika</i>	

<i>Paama</i>	Scattered <i>pidika</i> with different <i>varna</i> (white,red, black)	
<i>Dadru</i>	<i>Atasi pushpa</i> like <i>pidika</i> , <i>varna</i> with <i>mandala</i> (round patches)	

Modern View

Infections caused by pathogenic fungi are referred to as superficial fungal infections, and are restricted to human hair, nails, epidermis and mucosa. Although these infections are rarely dangerous or life threatening, they are important due to their worldwide distribute, frequency, transmission from person to person, and morbidity. Furthermore, the first indication of an underlying immunodeficiency may be particularly severe infections or those refractory to treatment.

The three most common types of superficial fungal infections are –

- Dermatophytosis (tinea or ringworm),
- Pityriasis versicolor (formerly tinea versicolor), and
- Candidiasis (moniliasis).

Dermatophytes are a wide group of associated fungi that can infect human skin, hair, and nails; found in soil (geophilic organisms), animals (zoophilic), and humans (anthropophilic). For growth, these fungi require keratin, and are therefore unable to infect mucosal surfaces. Although the specific species, and subsequent clinical presentation, vary from region to region, these fungi are found worldwide.

• Clinical examination^[19]

Typical infections have an annular appearance that patients refer to as “ringworm” and following table showing sign and symptoms of Tinea–

Table no. 5: Showing clinical manifestation of Tinea.

Sr. No	Type of tinea	Clinical manifestations	Prevention
1	Tinea cruris	Mainly involvement of groin region, Scaling, Erythematous eruption sparing the scrotum	Basic hygiene can also be of assistance in treating and preventing ringworm. Holding the skin clean and dry may help to prevent infection. Public safety includes wearing sandals in public showers or locker rooms and avoiding shared towels and items.
2	Tinea pedis	Most common infection of foot, Variable erythema, Edema, Scaling, pruritis, and occasionally vesiculations, Involvement may be widespread or localized but generally involves the web space between the fourth and fifth toes.	Prevention strategies include allowing the feet to breathe plenty of air and keeping them clean and dry. Wearing sandals in public showers or in locker rooms is a smart idea.
3	Tinea unguium	Mostly affected nails, Opacified, thickened nails, Sub-ungual debris, Distal-lateral variant is most common, Proximal subungual onychomycosis may be marker for HIV infection	Avoiding yeast infections begins with a healthy diet and proper hygiene. Wearing loose-fitting garments made of natural fabrics can also help avoid infection. Washing undergarments in very hot water and adjusting feminine items will also help avoid fungal growth too.
4	Tinea capitis	Infection of the scalp, Produce a relatively non-inflammatory infection with mild scale and hair loss that is diffuse or localized	No one should share towels, combs, hairbrushes, hats or pillowcases with other family members, friends or visitors. Wash the towels in warm, soapy water after each use

Diagrams Showing Various Fungal Infections



Tinea Cruris



Tinea Pedis



Tinea unguium



Tinea Capitis

Pathological examination**a) Koh microscopy^[20]**

Potassium hydroxide (KOH) may be used to diagnose tinea from skin scrapings, nails scrapings, or hair direct microscopic examination.

b) Culture^[21]

Skin scrapings should be sent for culture whenever infection of the dermatophytes is suspected. It takes at least two weeks before the fungus grows enough to identify itself. Nail clippings and hair samples should be examined in the same way as skin scrapings.

Treatment**Tinea Curis**

Tinea curis is commonly known as Jock itch. Jock itch care typically requires the use of topical antifungal ointments and proper grooming. Over-the-counter medications improve many cases of jock itch, though some require prescription medications. This may also help destroy the infection by washing the infected area and keeping this dry.

Tinea Pedis

Athlete's foot is often treated with topical antifungal ointments which can be purchased online or over-the-counter. Severe infections can also require supplementary oral medication. The feet will also need to be treated and kept dry in order to help kill the fungus.

Tinea unguium

Treatment of infections with tinea depends on their severity. Standard treatments include creams, tablets, or suppositories available through prescription, or over-the-counter, or online. Complicated infections can take complex therapies.

Tinea Capitis

Although oral Griseofulvin has been the standard treatment for tinea capitis, newer oral antifungal agents such as terbinafine, itraconazole, and fluconazole are effective, safe, and have shorter treatment courses.

Ayurvedic Treatment for Dadru²² (Fungal Infection)

The basic principle of treatment, as per *Ayurveda* is *nidana parivarjana*. Hence avoid the causative factors and take special care to protect the skin. Following measures can be taken to reduce the risk of infection with the fungal skin and to prevent spread.

- Dry your skin thoroughly after a bath.
- To remove any fungi, wash socks, clothes and bed linen frequently.
- Wear clean flip-flops or plastic shoes in damp areas, as well as common areas such as showers, saunas and pools.
- Wear loose fitting clothes made of cotton or material to keep the skin away from moisture.
- Do not share towels, hair brushes and combs that might carry a fungus. The treatment of *dadru* should be done on the basis of their cause.

As per *Ayurveda* treatment of *dadru* are

- *Sodhana karma*
- *Shaman karma*
- Local application of *lepa*.

A] *Sodhanakarma*

The excretion of vitiated *doshas* from the diseased individual is very important for *sodhana chikitsa*. To remove vitiated *pitta* and *rakta* should be given in *dadru kushta virechana* and *raktmokshan*.

Virechana karma- Purvakarma

- a) *Snehana karma*- *Snehana* should be done with *Panchtikta ghrit* daily by increasing manner starting from 50 ml, 150 ml, and 250 ml up to emergence of manifestation of “*samyaka snehana*” in the early morning after the completions of physiological urges.
- b) *Swedana karma*-After the completion of the *snehana* and before the *virechana karma*. The *peti sweda* should be given after massage of whole body.

Pradhankarma

- a) *Virechana karma*-Following *samyaka snehana shodhana* and patient examination, the planned induce purgation should be given to patients by giving *Trivrita kwath* early in the morning. Patients should be observed for *samyaka virechana* and *sansarjana karma* should be maintained as scheduled.
- b) *Rakta-mokshana karma*-*Rakta- mokshan* should be done by using 18 no. bore needle early in the morning near about 60 ml blood should be withdrawn persitting.

B] Shaman karma**Table no. 6: Some commonly used Ayurvedic formulations used for Dadru Kusta are.**

Sr.no	Drug	Dose	Anupan
1	Hinguliya Manikyarasa	8mg/ml	Water
2	Chakramard	Leaf juice- 10-20 gm Churna-1-6gm	Water
3	<i>Arogyavardhini vati</i>	500mg twice a day	Luke warm Water
4	<i>Manjisthadi kwath</i>	40ml	Madhu
5	<i>Gandhak rasayan</i>	500mg twice a day	lukewarm water
6	<i>Panchnimbadi churna</i>	5gm(3-5 masha)	Madhu, mand- ushna jal
7	<i>Haridra khand</i>	3-5gm	Milk
8	<i>Gomutra siddha Haritaki</i>	5gm at night	lukewarm water
9	<i>Panchatiktaka guggulu</i>	250mg	Luke warm Water
10	<i>Aaragvadhadi kwath</i>	40ml	Sambhag ghrut
11	<i>Kaishor guggulu</i>	500 mg, twice a day, after meals	Luke warm Water
12	<i>Panchtikita Ghruta Guggulu</i>	500 mg, twice a day, after meals	Luke warm Water
13	Nimbadi kwatha	10 ml twice a day	Water
14	Aragwatha kwatha	10 ml twice a day	Water
15	Gudoochyadi kwatha	10 ml twice a day	Water
16	Patolakaturhinyadi kwatha	10 ml twice a day	Water
17	Khadirarishtam	10 ml twice a day	Water
18	Aragwathasavam	10 ml twice a day	Water

C] Local application of lepa

Lepa should be applied as per area of skin lesion. Mostly applied in the morning and bedtime.

- Karanja oil
- Durvadi lepa
- Dadru gajendra singh
- Aragvadhadi lepa
- Edagajadi lepa
- Maha Marichyadi tail
- Nimba Taila

Protective measures

Proper nutrient intake and proper diet are important for healthy skin. *Ahara* is first transferred to *rasa dathu* which, by *agni's* action, turns into *twaksara*. Hence a healthy balanced diet is essential for good healthy skin. Below are some of the tips to make our skin healthy. Intake of 2 – 3 liters of water in regular intervals (hydrotherapy)

- Maintain daily dietary timings, vegetarian better.
- Hold very hygienic.
- Regular exercise based on physical capacity, for at least 1 hour.
- Get breakfast sprouts, nuts, and vegetable juices or fruit juices.
- Stop excess salty, spicy, and fatty, candy, drug misuse and fast food.
- *Ksheera* and *ghritha* are used every day as *rasayana*.
- Permanent body massage (*Abhyanga*)
- Minimum 7-8 hour sleep is compulsory.
- Avoid job late at night (*Jagarana*)
- Follow a few *yogasanas* to alleviate mental stress and release toxins
- Adopt holistic approach /practice positive thoughts

CONCLUSION

Dadru is the prevalent disease in developing countries such as India, with the majority of the population living in unhygienic conditions. *Dadru* has mentioned nearly all the *acharayas* along with their management. Thus *Ayurveda* is able to cure the disease of the skin like *Dadru*.

Dadru kustha is a specific skin condition that is clinically replicated by dermatophytosis or tinea. It can be concluded that the use of *Chikitsa upakramas* mentioned in *Ayurveda* such as *Shodhana*, *Shamana* (formulations such as *Arogyavardhini vati*, *Gandhak rasayan* etc.) and *Bahiparimarjana* (*lepa* of local application *Karanj* oil, *Nimb tail* etc.) are effective in the management of *Dudru kushta*.

This is one among the relapsing type of skin disease so patient was advised to follow *Pathyapthya* like *Ahara*, *Vihara*, *Achara*, *Vichara*. Repeated *Shodhana* as per classics in accordance with *Dosha*, *Kala*, *Agni* and *Desha* etc., should be administered to control the frequency of recurrence and further spread Chances of recurrences are more in fungal lesions. Utmost care should be taken for skin protection.

REFERENCES

1. WHO, Epidemiology and Management of common skin diseases in children in developing countries. WHO, Geneva WHO/FCH/CAH/05.12, 2005.
2. Davidsons Principles and Practice of Medicine 20th Edition, Elsevier publication, 2006;

- 1297.
3. Davidsons Principles and Practice of Medicine 20th Edition, Elsevier publication, 2006; 1297.
 4. Davidsons Principles and Practice of Medicine 20th Edition, Elsevier publication, 2006; 1297.
 5. Dr. kevala Krishna thakral, Sushrut Samhita vol-1, Nidana Sthana 5/8, chouxhambha orientalia, Varanasi, 1st edition, reprint, 2016; 748.
 6. Text book of dermatology, Ramji Gupta, Published by Jaypee Brothers Medical Publisher, New Delhi, 2002; 11: 68-69.
 7. Agnivesha: Charaka samhitha, Edited by Acharya Jadavji Trikamji, Published by Choukhambha publication, Varanasi, 2017; 7/9-10: 450.
 8. Vagbhata, Ashtanga Hridaya, Edited by HariSastri Paradakara Vaidya, Published by Choukhambha Orientalia, Varanasi; Reprint, 2018; 14/7-10: 524.
 9. Agnivesha: Charaka samhitha, Edited by Acharya Jadavji Trikamji, Published by Choukhambha publication, Varanasi, 2017; 7/30: 451.
 10. Vaidya Yadavji Trikamji Acharya, Sushrut Samhita of Sushruta, Chikitsa Sthana.: Kushta Chikitsa: Chapter 9, Chaukhamba Surbharti: Varanasi, Reprint, 2017; 446.
 11. Puripanda s kamalakar et.al, understanding the concept of sankramika dadru kusta-a case study, intrernational journal of ayurveda and pharma research, August, 2016; 4(8): 81-85.
 12. Shastri ambikadutta, susrutasamhita, chaukhambha Sanskrit sansthan varanasi, fourth edition, nidana sthana, 1976; 5/32- 33, 325.
 13. S kamalakar et.al, understanding the concept of sankramika dadru kusta-a case study, intrernational journal of ayurveda and pharma research, august, 2016; 4(8): 81-85.
 14. Shastri kasinatha et.al, charaka samhita, chaukhambha Sanskrit sansthan Varanasi, edition: reprint, chikitsa sthana, 2012; 7/4- 8: 201.
 15. Shastri ambikadutt, susrutasamhita, chaukhambha Sanskrit sansthan varanasi, edition: reprint, nidana sthana, 5/3: 246.
 16. Katyayan abhay, bhela samhita, chaukhambha surbharti prakashan varanasi, first edition 2009, nidana sthana 5/1-4, 160.
 17. Tripathi pandit hariprasad, harita samhita, chowkhamba Krishnadas academy varanasi, edition, 2005, tritiya sthana 39/1-2, 415.
 18. Vijayaraksita & datta srikantha et.al. madhava nidanam, chaukhambha surbharti prakashan Varanasi, 2, edition reprint, kushta nidanam 49/1-6, 2011; 194.
 19. Harrison's principle of internal medicine, vol-1, edition 18, chapter, 52, 401.

20. Ronald marks, roxburgh's common skin diseases, edition 16, chapter, 4: 33.
21. Mishra Bramhashankar, Bhaishajya Ratnavali, Vol- III edition 1st, 57/26, New Delhi: Chaukhamba Sanskrit Bhavan, 2006; 145.