



Case Report

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MANAGEMENT OF DERMATOPHYTOSIS WITH AYURVEDIC INTERVENTION: A CASE REPORT

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ABSTRACT

Introduction: Dermatophytosis (tinea) infections are superficial fungal diseases caused by dermatophytes, a genus of fungus that penetrates and develops in dead keratin. Fungal infections are more likely to recur and, if left untreated, can result in the emergence of more serious illnesses. Even though there are many antifungal medications available to treat tinea infection, relapses and recurrences show that the pathogenic organism is not easily destroyed, necessitating more study to develop new therapeutic choices. In Ayurveda, many drugs are claimed to have the krimighna effect, which can lead to a more efficient course of treatment. Dermatophytosis can be simulated with dadru kushtha since the clinical characteristics of the disease are more closely related to dermatophytosis. Material and Method: In this case report, a 30-year-old female patient was successfully treated with the Ayurvedic interventions of chakramarda beej churna, vidanga beej, kampillaka, rala, tankana bhasma, and aaroyavardhini vati after being diagnosed with dadru kushtha (tinea corporis) based on symptoms. Result: After 45 days of consistent treatment, there was total relief from the symptoms of kandu (itching), daha (burning sensation), raga (erythema), pidika (eruptions), and utsanna mandala (elevated circular skin lesion), and there was no recurrence in the 15-day follow-up period. Conclusion: Dermatophytosis can be effectively treated with Ayurvedic bahiparimarjana (external application) and shamana chikitsa, along with dietary restrictions and personal hygiene.

Keywords: Dermatophytosis, Dadru Kushtha, Tinea corporis, Ayurvedic

INTRODUCTION

Dermatophytosis (tinea) infections are superficial fungal diseases caused by dermatophytes, a genus of fungus that penetrates and develops in dead keratin. They tend to spread outwards on the skin, forming a ring-like pattern called "ringworm."¹ The infection can be transmitted to humans by anthropophilic (between people), geophilic (from the soil) and zoophilic (from animals) spread.² The recent prevalence of dermatophytosis in India ranges from 36.6 to 78.4%.³ They are highly contagious segmented fungal infections with single or numerous circular lesions with core clearing, slightly elevated sharp margins with raised crimson edges, and severe itching. Dermatophytosis, also known as tinea, is clinically categorized according to the site of the infection: tinea capitis is a dermatophyte infection of the scalp; tinea pedis/foot Athlete's is an infection of the feet; tinea manuum of the hands; tinea unguium or onychomycosis of the nails; tinea cruris/Jock itch of the groin area; tinea corporis of the trunks and arms, tinea barbae of the beard area.⁴ They are usually treatable, although success depends on the site of infection and adherence to therapy. Many topical and systemic antifungal medications and local corticosteroids have been introduced into clinical practice to treat dermatophyte diseases effectively.⁵ Rather than efficient management, dermatophytosis has a high rate of relapse or recurrence,^{6,7} indicating that the pathogenic organism is not efficiently irradiated, necessitating additional research to create new therapeutic options.

In Ayurveda, 'Dermatophytosis' is typically imitated with 'Dadru Kushtha' based on clinical manifestations such as kandu (itching), raga (erythema), pidaka (eruptions), and utsanna mandala (elevated circular lesion).^{8,9} Local applications (lepa, alepa)

combined with the internal medications specified in the traditional text by various Acharyas therapeutically beneficial are used to treat dadru kushtha. As dermatophyte fungus grows mainly on the skin's surface, external therapy is crucial in treating this condition.

In this case report, a patient based on classical signs and symptoms diagnosed with dadru kushtha was effectively managed with Ayurvedic medicine without any adverse events being noted.

Case Report

A 30-year-old female patient presented to the skin OPD of AIIA, Sarita Vihara, New Delhi, on 10/01/2022 with the primary complaint of erythematous, circular lesions with elevated borders under each breast and on the trunk area, both of which had been present for five months and were extremely itchy and somewhat burning. According to her medical history, she first noticed a reddish patch over her trunk area with a mild itch five months prior. The lesion then slowly spread under her breasts. She didn't take any medicine for the same and came to Skin OPD for better treatment as symptoms got more aggravated.

History

No specific history of severe sickness, drug sensitivity, or prior surgeries was found. Positive family history reveals that her husband has also complained of erythematous areas and itchiness.

General and Systemic Examination

Personal history revealed that the bowels were emptied once daily, the bladder was regular, and the appetite was good. Itching causes sleep disturbances. No specific background in addiction.

On general and systemic examination, pallor, icterus, clubbing, cyanosis, and lymphadenopathy are absent, and blood pressure, respiratory rate, and temperature were within the normal limit. Systemic examination did not reveal any abnormality. Agni of the patient was samagni, abhyavaharan and jaranashakti were madhyama, and prakruti was pittapradhana vatanubandhi.

Ashtavidha Pariksha

- **Nadi**- 78/min, Regular Vaat-Pittaja
- **Mutra**- Samyaka 5-6 times/day, 0-1 times/night
- **Mala**- Regular, one time a day
- **Jiwha**- Nirama
- **Shabda**- Spastha
- **Sparsha**- Anushnasheeta
- **Druka**- Prakrut
- **Akruti**- Madhyam

Dermatological Examination

A dermatological examination found numerous circular reddish erythematous plaques (mandala) with vesicular eruptions (pidika) over the trunk areas (18-20 cm in diameter), under the right breast (5-7 cm in diameter), and under the left breast (5-6 cm in diameter), each with a slightly raised reddened demarked edge and a central clearing. These lesions were accompanied by the symptoms of intense itchiness and burning. (Figure 1)

Diagnostic Features

Based on the cardinal clinical features of kandu, daha, raga, mandala, and utsedhata, the case was diagnosed as dadru kushtha.

Timeline

The treatment was developed and given after analysing dosha, dushya, and possible samprapti (pathogenesis), and it can be categorized as shamana (pacifying therapy) and bahirparimarjan

chikitsa (external application), as indicated in (Figure 2). Along with treatment, the patient was advised dietary restrictions. During treatment, the patient was instructed to avoid and limit the consumption of sour, spicy, salty, and junk food, tinned food, soft drinks, and milk products like paneer and curd. The patient was also directed to wear loose-fitting, clean clothing and was advised to wash her clothes in warm water and air dry them in sunlight.

Assessment Criteria

The assessment criteria were based on the clinical characteristics of dadru kushtha. (Table 1) The assessment was done before treatment, intermittently, and after treatment.

RESULT AND DISCUSSION

The symptoms were assessed based on the scoring pattern mentioned in Figure 3. After 30 days of treatment, a significant result was found in kandu, raga, daha, and pidaka. After 45-day complete relief was observed in all the parameters. (Figure 4) Following this time, the medications were stopped, and the patient was advised to follow dietary restrictions. Following 15 days, one follow-up was conducted. No recurrence was detected following the follow-up period.

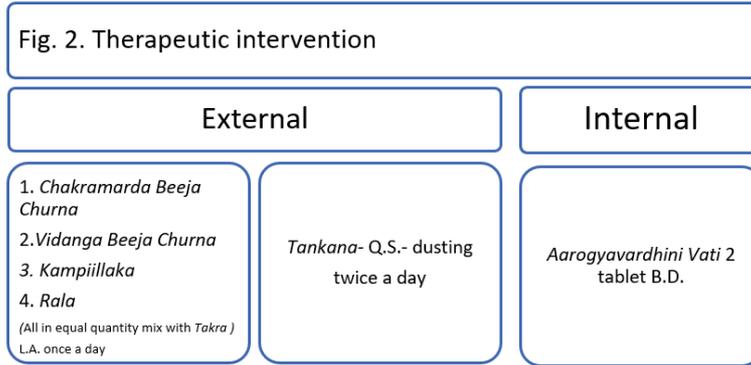
The Ayurvedic classic also explains the contagious nature of dermatophytosis by referencing kushtha under aupasargic roga (contagious diseases).¹⁰ Direct contact history with the dadru kushtha infected person is one of the nidana of the present case for the manifestation of the disease. (Figure 5) Moreover, consuming an unwholesome diet regularly (ahara) and living in unhygienic conditions (vihara) contributed to the local vitiation of the doshas and the symptomatology. Depending on the patient's nidana, dosha, dushya, and prakruti, vyadipratyanic, pitta-kapha shamaka, internal treatment, and pathya-apathya (do and don'ts) were implemented.

Table 1: Assessment Criteria

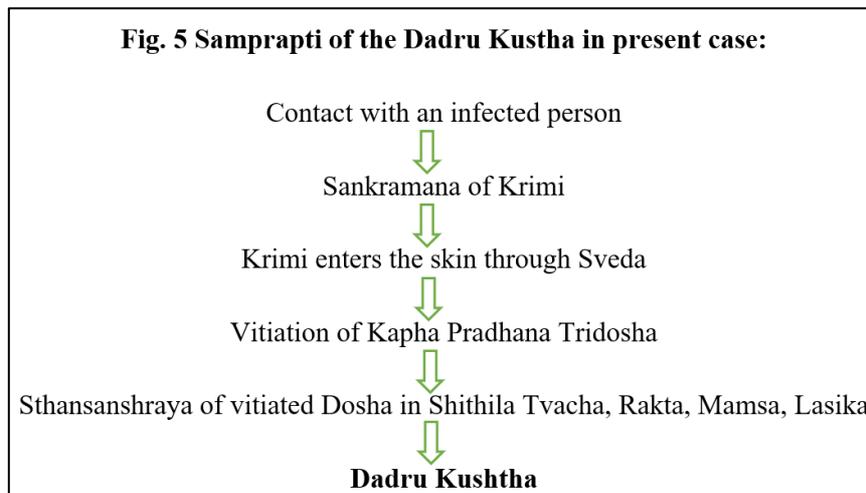
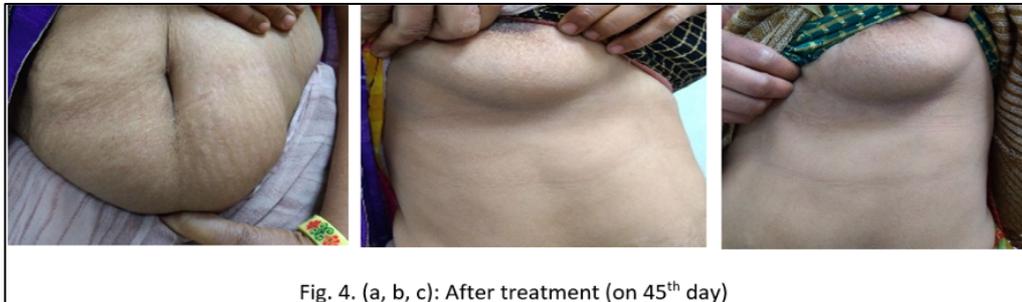
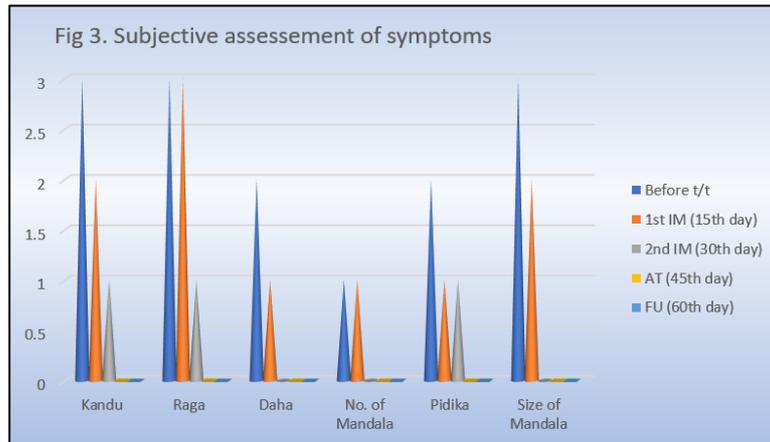
Clinical Features	Grade 0	Grade 1	Grade 2	Grade 3
<i>Kandu</i> (Itching)	Absent	Occasionally, it doesn't disturb routine activity and sleep, Duration- 4-6 min, Frequency- recurs 1-2 times in 12 hours.	Frequent, disturb routine activity but not sleep, Duration- 7- 9 min, Frequency recurs 3-4 times in 12 hours.	Intense and constant, disturb sleep and routine activity, Duration- 10-12 min., Frequency- recurs 8-10 times in 12 hours.
<i>Raga</i> (Erythema)	Absent	Brownish (Faint black)	Blackish (dark black)	Red (bright red or reddish black)
<i>Daha</i> (Burning Sensation)	Absent	Mild (Occasionally burning sensation)	Moderate (Often burning sensation)	Severe (Always burning sensation, disturbing sleep and other activities)
No. of <i>Mandala</i>	No <i>Mandala</i>	1 to 5 <i>Mandala</i>	6 to 10 <i>Mandala</i>	>10 <i>Mandala</i>
<i>Pidika</i> (Papules)	Absent	<i>Alpa Pidika</i> (1-3)	<i>Madhyama Pidika</i> (4-7)	<i>Bahu Pidika</i> (>7)
Size of <i>Mandala</i>	0 cm	< 5 cm	5-10 cm	>10 cm

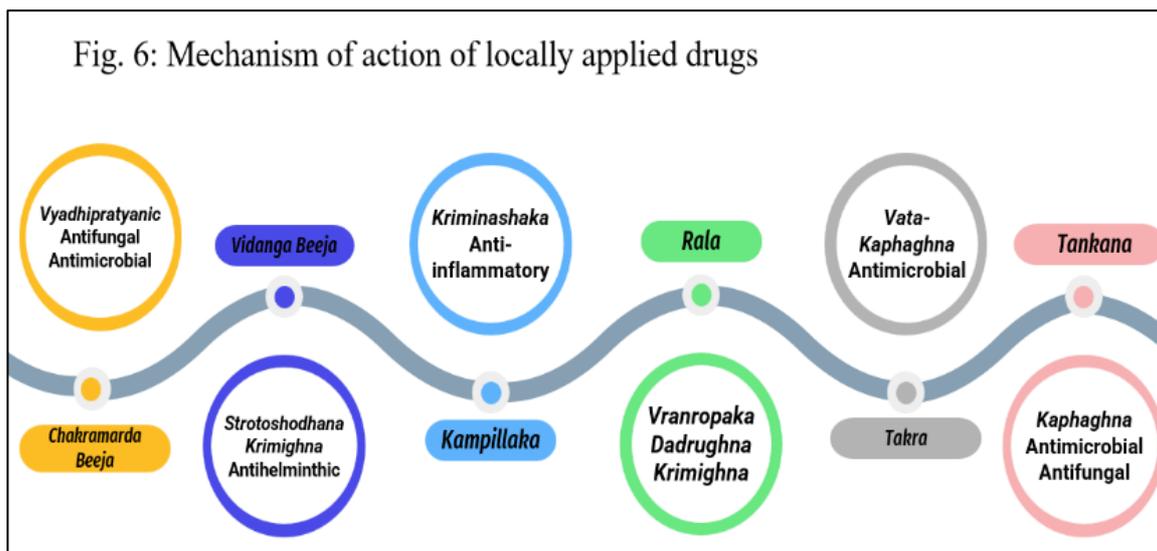


Fig. 1. (a, b, c): Before treatment



Abbreviation: L.A.- Local application; Q.S.- Required quantity; B. D.- Twice a day





Probable mode of action of the drugs

Chakramarda Beeja (*Cassia tora* Linn.)

Bhavamishra has extensively recorded the vyadhipratyanic action of the drug chakramarda. The properties of the drug chakramarada are laghu, ruksha guna, katu rasa, katu vipaka, and ushna virya.¹¹ Laghu, ruksha guna of the drug causes lekha (scraping) and soothes the kleda and snigdha, thus leading to decrease in the elevation of the lesion. Antifungal, antimicrobial action of the extract of the *Cassia tora* is well documented in the previous studies.^{12,13}

Vidanga Beeja (*Embelia ribes* Burm. F.)

Vidanga has laghu, ruksha, tikshna guna, katu, tikta rasa, katu vipaka, ushna virya.¹⁴ Katu rasa acts as strotoshodhana (clearing the channels). Ushna virya acts as kaphahara and corrects the dushita kapha. Vidanga also has krimighna, kushthagghna, and strotovirechana properties which help to reduce the symptoms. Previous studies also proved its antihelminthic, astringent, carminative, and stimulant action.¹⁵

Kampillaka

Kampillaka (*Mallotus philippensis* Muell.) drug possesses properties like laghu, ruksha, tikshna guna, katu rasa, katu vipaka and ushna virya, kriminashaka, vrananashaka and kapha, pitta and rakta shamaka qualities.¹⁶ Research has reported its antifilarial, antibacterial, antifungal, anti-inflammatory, immunoregulatory, antiproliferative, and wound healing properties.¹⁷ Laghu, ruksha guna, katu rasa, and ushna virya remove kleda from the strotasa, which is a responsible factor in the pathogenesis of kushtha. Acharya Bhavamishra and Acharya Dhanvantari Niganthu mentioned Kampillaka as Kriminashaka.¹⁷

Rala

Rala is an exudate of Shala (*Shorea robusta* Gaertn.) has kashaya, madhura rasa, sheeta virya, katu vipaka, and vednasthapaka prabhava.¹⁸ Its vrana ropaka, krimighna, dadrugghna, and bhagnasandhankara characteristics were emphasized by Acharyas.¹⁸ It has the total binding capacity, thus increasing the bioavailability of the formulation. The anti-inflammatory effect¹⁹ and antimicrobial,²⁰ antifungal²¹ effects of ethanol extract of the plant are well documented.

Takra

Takra has kashaya (astringent taste), amla rasa, ushna virya, madhura vipaka, laghu, deepana, grahi guna.²² Due to amla rasa, madhura vipaka, kashaya rasa, vikasi, and ruksha characteristics,

it acts as a vataghna, kaphaghna, and doesn't vitiate pitta. Vikasi guna and ushna virya takra help for deeper penetration of the drugs. The studies also report the antimicrobial activity of the takra.²³

Tankana

Tankana is the important compound of Boron, also called Sodium Biorate.²⁴ Katu rasa, amla vipaka, ushna virya, tikshna, laghu, sara, sushma guna, and kaphahara²⁵ may help to reduce itching by balancing the kapha dosha. The antifungal and antibacterial activity of tankana is well documented.²⁶

Aarogyavardhini Vati

Aarogyavardhini Vati mainly contains kutaki with other herbomineral compounds like triphala, chitrak, guggul, nimb, parad, gandhak, lauha bhasma, abhrak bhasma, shilajit, tamra bhasma, are responsible for lekhan, bhedan of dosha and vatanuloman.²⁷ It is often used to treat skin conditions. aarogyavardhini is a kushthagghna formulation. But it also possesses actions like pachana, deepana, malashodhana, and kshudha pravartana. Thus, it is somewhat responsible for agnideepan, doshashaman, kushthanashana and shodhana.

In combination, all the drugs function as doshapratyanic (antagonizing dosha) and dhatupratyanic (antagonizing dhatus) and eliminate kleda, cleansing the channel and breaking pathogenesis. (Figure 5.)

CONCLUSION

Dadru Kushtha is a common skin disease that clinically simulates dermatophytosis. Based on the associated doshas and Samprapti, dermatophytosis infection can be successfully managed by Bahiparimarjana (external application) and Shamana Chikitsa, along with dietary restrictions and personal hygiene. This case study documented evidence of the successful management of Dadru Kushtha by minimizing the negative effects of inappropriate use of antifungal medication.

Informed Consent: Written informed consent was obtained from the patient to publish this case report and accompanying images.

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