



Case Report

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EFFECT OF TUTHAMRUTA MALAHARA ON PADADARI (CRACKED HEELS): A CASE REPORT

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ABSTRACT

Cracking or fissuring is the most frequently noticed sign around the heels when the skin around the feet loses its suppleness and elasticity, resulting in excessive dryness. Cracked heels, also known as heel fissures, are a prevalent dermatological condition characterized by dry and thickened skin that may progress to result in painful cracks. In Ayurveda, the cracked heel is correlated with Padadari, which comes under the heading of Kshudra rogas. It occurs due to excessive walking, walking on uneven surfaces, and excessively practising foods and regimens, which increase Vata. Thereby, Vata localized in pada get aggravated and shows signs like rukshata (dryness of skin), twak sphutana (cracks on the skin), twak kathinya (roughness of skin), ruja (pain) etc. Here is a case report of a 28-year-old male with complaints of cracks in both feet associated with pain and blackish discoloration for the past month. Tuthamruta Malahara, mentioned in Rasatarangini, was given to the patient as a therapeutic intervention. The treatment protocol includes thorough cleaning of the affected area, soaking of feet in lukewarm water for 10 minutes, moisturization and educating about foot care. The case was treated successfully within 28 days with only an external application. As the findings are encouraging, this drug can be further studied in a larger study group.

Keyword: Cracked heel, Kshudra roga, Padadari, Tuthamruta Malahara

INTRODUCTION

A cracked heel is a common foot problem. In most of the cases, it is merely a nuisance and unattractive to look at. However, when the cracks or fissures become severe, the daily routine becomes burdensome¹. These fissures may act as a gateway for microorganisms to enter the body, leading to secondary infections.

Acharya Susrutha has narrated Padadari under Kshudra Roga (~ minor ailments). The word Pada means heel & feet, and Dari means cracks. It is a skin condition caused by the aggravation of Vata Dosha located in Pada due to Atichankramana (excessive walking, especially barefoot), which leads to dryness and the appearance of cracks or fissures in the soles of feet and is associated with pain².

Acharya Susrutha's explanation for the management of Padadari includes Siravedha (puncture) of the veins of the feet and treatment of the affected part with fomentations and unguents. Ayurveda also recommends plastering of the affected part with an ointment composed of Madhuchhishta (Bees wax), Vasa (lard), Majja (marrow), powder of Sarja Rasa (resin obtained from *Shorea robusta* Gaertn.), clarified butter, Yavakshara (alkaline formulation prepared from ash of *Hordeum vulgare* L.) and

Gairika (Red ochre)³. Getting insight from this, Tuthamruta Malahara was used in the present case with a clinical presentation of Padadari and was successfully managed within four weeks. Tuthamruta Malahara (TM) is mentioned in Rasatarangini and indicated especially in Paama Kushta (Scabies) for external application. It contains Tutha (Copper Sulfate), Tila taila (sesame oil), and Madhuchhishta (Beeswax).

MATERIALS AND METHODS

Case report- Patient Information

A 28-year-old male patient, non-diabetic, non-hypertensive, came to the Outpatient Department of Rasashastra and Bhaishajya Kalpana, NIA Hospital in Jaipur on 13th May 2023, complaining of the appearance of cracks in both feet associated with moderate pain for the past one month. Detailed history-taking revealed that the patient had recently been relocated to Jaipur from Kerala. The patient started experiencing dryness in feet a few days after shifting to Jaipur but ignored the signs. A week later, cracks began appearing on the soles of the heel, accompanied with pain and blackish discoloration. Within ten days, the cracks started lengthening and deepening. The patient also noticed increasing pain while performing routine activities. The blackish discoloration also became more pronounced, so the patient

visited the OPD of NIA Jaipur. Family history and past history were not relevant to the patient's condition.

Clinical Findings

General examination: The patient was well-oriented and well-nourished, with no signs of pallor and icterus. The patient's appetite, sleep, bladder and bowel movements were normal. No abnormal findings were noticed during the systemic examination.

Local examination revealed the presence of 10 to 15 numbers of dry superficial cracks on the soles of feet bilaterally ranging from 1 to 4 cm with blackish discoloration and roughness on touch. The patient experienced mild pain in the heel while walking, standing and performing other routine activities.

Timeline

The patient noticed dryness and roughness of feet in the month of April 2023, gradually followed by the appearance of cracks on heels bilaterally. The patient applied petroleum jelly on the cracks daily for one week prior to the visit, but there was no significant relief in the condition. On 13th May 2023, he consulted for Ayurvedic treatment for the condition.

Diagnosis

The diagnosis was based on the clinical presentation of the condition. Vipadika was taken as a differential diagnosis. It is classified under Kshudra Kushta caused due to vitiation of Vata and Kapha Dosha and is chiefly characterized by Pani Pada Sphutana (Cracks on Palms and Soles) accompanied with Teevra Vedana (Severe Pain)⁴.

Pani Sphutana, Teevra vedana, and signs of vitiated Kapha Dosha like Srava (oozing) and Kandu (itching) were absent in the patient. By analyzing the signs and symptoms, we came to the final diagnosis of the patient's condition as Padadari, and hence, the intervention was planned accordingly following the Ayurvedic line of treatment.

Assessment Criteria

The outcome of the intervention was assessed with periodic follow-up of the case. The changes in subjective parameters were evaluated using a specially prepared grading scale⁵.

Therapeutic intervention

The patient was advised for local application of Tuthamruta Malahara twice a day for a period of one month. The patient was instructed to apply the Malahara after cleaning the feet and soaking them in lukewarm water for 10 minutes. Later, the Malahara was applied to the soaked wet heels after removing the excess water. During treatment, the patient was instructed to avoid using moisturizers, harsh soaps, and thin-soled footwear [Table 1].

OBSERVATION AND RESULTS

The condition was assessed every seven days up to four weeks [Table 2]. Photographs were taken on each visit. A considerable decrease in Ruja was found in the first two days after applying the medicine. A decrease in roughness and dryness around the heels was found after two weeks. Moderate healing of cracks was found on the second follow-up [Figure 3]. Significant improvement in all signs and symptoms was seen in the third follow-up. During the fourth follow-up, the condition completely improved [Figure 6] [Table 3].



Figure 1: Affected area before treatment



Figure 2: Effect of TM after 7 days on the affected area



Figure 3: Effect of TM after 14 days on the affected area



Figure 4: Effect of TM after 21 days on the affected area.



Figure 5: Effect of TM after 28 days on the affected area



Figure 6: Before and after treatment.

Table 1: Timeline and Ayurvedic Intervention

Duration of intervention	Medicine / Intervention	Dosage and Frequency
28 days (13 th May 2023 – 10 th June 2023) followed by weekly follow up.	Local application of <i>Tuthamruta Malahara</i> .	Quantity sufficient for local application. Twice a day. (After soaking of feet in lukewarm water. morning and evening)

Table 2: Criteria for assessment

Grading	Distribution of <i>Dari</i> (Cracks)	Number of <i>Dari</i>	<i>Twak Kathinya</i> (Roughness)	<i>Ruksha</i> (Dryness)	<i>Saruja</i> (Pain)	<i>Kandu</i> (Itching)
0 (No)	No <i>Dari</i> over feet	No <i>Dari</i>	No roughness	No dryness	No pain	No itching
1 (mild)	At heel	1 – 5	Mild	Mild	Mild	Mild
2 (moderate)	Heel with whole border of feet	5 – 15	Moderate	Moderate	Moderate	Moderate
3 (severe)	Whole foot	More than 15	Severe	Severe	Severe	Severe

Table 3: Assessment of parameters in each visit

Parameters	Assessment of parameters in each visit				
	0 th day	7 th day	14 th day	21 th day	28 th day
Distribution of <i>Dari</i>	Grade 1	Grade 1	Grade 1	Grade 1	Grade 0
Number of <i>Dari</i>	Grade 2	Grade 2	Grade 1	Grade 1	Grade 0
<i>Twak kathinya</i>	Grade 2	Grade 2	Grade 2	Grade 1	Grade 0
<i>Ruksha</i>	Grade 2	Grade 2	Grade 2	Grade 1	Grade 0
<i>Saruja</i>	Grade 2	Grade 0	Grade 0	Grade 0	Grade 0
<i>Kandu</i>	Grade 0	Grade 0	Grade 0	Grade 0	Grade 0

DISCUSSION

The characteristics of Padadari were moderate in the initial stage. The main factor was the change in environment because the patient was relocated to Jangala Desha (Jaipur, India) from Anupa Desha (Thrissur, India). Because of the moderate nature of the condition, only external application was advised, and the patient was asked to stay hydrated. The test drug selected for the study was *Tuthamruta Malahara*⁶. It contains *Tila taila* (Sesame Oil), *Madhuchishta* (Beeswax) and *Shodhita Tutha* (Purified Copper Sulphate).

Tila taila is Vata Kapha hara, *Tvachya*, indicated in *Vrana*⁷, *Sphutana*⁸. *Madhuchishta* is having *Mridu* (Soft), *Snigdha* (Unctuous) *guna* and *Vrana Ropana* (Heals the wound), *Vata Kushta hara Karma* (pacify Skin diseases due to Vata)⁹. Beeswax hydrates, soothes, and calms the skin. It exfoliates and repairs damaged skin, promotes the skin's regeneration, diminishes the appearance of the signs of ageing, and soothes and facilitates the healing of abrasions. It prevents harmful bacteria from entering the body through chapped and broken skin by providing the skin with a layer of protection against external irritants¹⁰. *Tutha* also promotes cleaning and healing of wounds when it is used as an ointment¹¹, and it has good anti-bacterial activity also¹². Soaking feet in lukewarm water prior to the application of *Malahara* helps in Pacifying Vata dosha, increases the blood flow to that area and increases the absorption of the *Malahara* through the skin.

In the present study, during the first follow-up [Figure 2], a significant decrease in *Ruja* was observed. In 3rd follow-up, significant relief in all signs and symptoms was observed [Figure 4]. Complete relief from the condition was observed during 4th follow-up [Figure 5].

CONCLUSION

Cracked heel is a common condition which affects every individual at least once during their lifetime. Proper management during the initial stage can prevent further complications. The present case reveals that following the Ayurvedic line of treatment is very effective tool for the management of any disease. The

present case proves *Tuthamruta Malahara* is a potent herbomineral medicine for the treatment of Padadari (Cracked heels).

Informed Consent: Informed consent was taken from the patient and the study was carried out as per the International Conference of Harmonization-Good Clinical Practices Guidelines (ICH-GCP).

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