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Individualized Homoeopathic Management of Chronic Heel Fissures (Cracked Heels): A Detailed Case Report with Clinical Follow-up and Xerotic Assessment Score Evaluation

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Abstract:
Heel fissures (cracked heels) are a common dermatological condition characterized by xerosis, hyperkeratosis, scaling, and fissuring of the plantar skin. Although frequently considered a cosmetic concern, advanced heel fissures can become painful, impair walking, and predispose to secondary infection. Conventional management mainly relies on topical emollients and keratolytic preparations, which often provide temporary relief without addressing the patient's constitutional susceptibility. Homoeopathy emphasizes individualized treatment based on the totality of symptoms and constitutional characteristics. This case report describes the successful management of chronic bilateral heel fissures using individualized homoeopathic treatment supported by objective assessment with the Xerotic Assessment Score (XAS)

Case Summary
A 50-year-old female domestic worker presented with bilateral heel fissures of 8–10 months duration, extending to the soles, with the left heel more severely affected. The patient experienced tearing pain while walking and on pressure, burning sensation at night, marked dryness, roughness, thickening of the heel skin, and a sensation that the skin would split open. Symptoms were aggravated by walking, prolonged standing, winter, cold exposure, and washing with cold water, while rest, warm water, and soft footwear relieved the discomfort. Constitutional assessment revealed a calm, cooperative, introverted personality with suppressed emotions, desire for spicy food, ambithermal thermal reaction, and preference for cleanliness.
Clinical improvement was assessed through serial follow-up using the Xerotic Assessment Score (XAS), symptom intensity, clinical photographs, and functional improvement in daily activities.

Keywords: Heel fissures; Cracked heels; Xerosis; Hyperkeratosis; Individualized Homoeopathy; Xerotic Assessment Score; Case report

INTRODUCTION

Heel fissures, commonly known as cracked heels, are among the most prevalent disorders affecting the plantar skin. They develop due to excessive xerosis, hyperkeratosis, and repeated mechanical stress, resulting in linear breaks in the epidermis that may extend into the dermis. Although mild fissures are often asymptomatic, advanced lesions can produce severe pain, burning sensation, bleeding, difficulty in walking, and secondary bacterial infection, thereby significantly affecting quality of life.

The plantar skin is structurally unique, being thicker than skin elsewhere in the body and lacking sebaceous glands. Consequently, it is more susceptible to transepidermal water loss, especially under conditions of repeated pressure, prolonged standing, obesity, advancing age, and environmental dryness. As elasticity decreases, the thickened keratinized skin loses its flexibility and eventually splits under mechanical loading.

Several predisposing factors contribute to heel fissures, including prolonged standing, walking barefoot, open-back footwear, obesity, diabetes mellitus, hypothyroidism, eczema, psoriasis, ichthyosis, nutritional deficiencies, and occupational exposure to harsh environmental conditions. Domestic workers, agricultural labourers, and industrial workers are particularly susceptible because of prolonged weight-bearing activities and repeated exposure to water, detergents, and dust.

Conventional management generally consists of topical emollients, keratolytic agents such as urea and salicylic acid, occlusive dressings, and management of associated systemic disorders. Although these measures often improve local symptoms, recurrence remains common because constitutional predisposition and individual susceptibility are not specifically addressed.

Homoeopathy approaches chronic dermatological conditions from an individualized perspective. According to Hahnemannian principles, treatment is based on the totality of symptoms rather than the pathological diagnosis alone. Mental characteristics, physical generals, constitutional traits, local symptoms, modalities, and individual susceptibility collectively guide remedy selection. Such an individualized approach aims not merely to alleviate local symptoms but also to stimulate the organism's inherent self-regulatory mechanisms.

Objective outcome assessment is essential for strengthening the scientific validity of homoeopathic case reports. The Xerotic Assessment Score (XAS) provides a structured method for evaluating dryness, roughness, inflammation, fissuring, and itching, allowing quantitative monitoring of treatment response. The present report describes the individualized homoeopathic management of chronic bilateral heel fissures using Sulphur 200C, supported by serial follow-up, XAS scoring, repertorial analysis, and clinical photographic documentation.

REVIEW OF LITERATURE

Heel fissures (rhagades or cracked heels) are linear breaks in the epidermis, predominantly affecting the plantar aspect of the heel due to excessive dryness (xerosis) and hyperkeratosis. The condition progresses from superficial epidermal cracks to deep fissures involving the dermis, often associated with pain, bleeding, inflammation, and functional disability. Although frequently considered a minor dermatological complaint, untreated heel fissures can significantly impair mobility and quality of life and may predispose to secondary bacterial infection.

The heel normally bears approximately 60–80% of body weight during standing and walking. The plantar skin is naturally thick, rich in keratin, and lacks sebaceous glands. Consequently, the heel is

especially vulnerable to moisture loss, leading to decreased elasticity and increased susceptibility to fissuring under repeated mechanical stress.

Epidemiology

- Heel fissures affect individuals across all age groups but are more common in:
- Middle-aged and elderly individuals
- Females
- Persons who stand for prolonged periods
- Agricultural and industrial workers
- Diabetic patients
- Obese individuals
- Patients with eczema, psoriasis etc.
- The prevalence varies according to climatic conditions, occupation, footwear habits, and associated systemic diseases.

Etiopathogenesis

- Heel fissures result from a combination of mechanical, environmental, dermatological, and systemic factors.
- Mechanical Factors
- Repeated pressure over the heel
- Obesity
- Prolonged standing
- Walking barefoot
- Ill-fitting footwear
- Open-back sandals
- Mechanical stress causes expansion of the heel fat pad, producing tensile forces that split the thickened skin.

Dermatological Factors

- Xerosis
- Hyperkeratosis
- Atopic dermatitis
- Psoriasis
- Ichthyosis
- Palmoplantar keratoderma
- These conditions impair epidermal barrier function, increasing transepidermal water loss.

Systemic Diseases

- Several systemic disorders predispose to chronic heel fissures:
- Diabetes mellitus
- Hypothyroidism
- Peripheral vascular disease

- Nutritional deficiencies
- Neuropathy
- Autoimmune skin disorders
- Patients with diabetes have impaired wound healing and are at increased risk of infection and ulceration.

Environmental Factors

- Low humidity
- Winter climate
- Frequent washing
- Harsh soaps
- Detergents
- Dust exposure
- These contribute to progressive dehydration of the plantar skin.

Clinical Features

- Patients commonly present with:
  - Dryness of heel skin
  - White scaling
  - Roughness
  - Hyperkeratosis
  - Superficial or deep fissures
  - Pain during walking
  - Burning sensation
  - Itching
  - Bleeding in severe cases
  - Difficulty standing for prolonged periods

- Complicated cases may develop: Secondary bacterial infection
  - Cellulitis
  - Ulcer formation
  - Impaired gait

- **Diagnosis**
  - Diagnosis is primarily clinical.
  - Important examination findings include:
  - Distribution of fissures
  - Depth of cracks
  - Degree of xerosis
  - Hyperkeratosis
  - Presence of bleeding
  - Erythema

- Infection
- Tenderness
- Foot deformities
- When indicated, laboratory investigations should exclude diabetes mellitus, thyroid dysfunction, nutritional deficiencies, and fungal infection.

Conventional Management:

- Current dermatological management includes:

Topical Therapy	Mechanical Therapy	Treatment of Associated Disease
Petroleum jelly Urea cream (10–40%) Salicylic acid Lactic acid Glycolic acid Liquid paraffin	Debridement Pumice stone Foot soaking Occlusive dressing	Diabetes control Weight reduction Nutritional supplementation Management of eczema or psoriasis

Although these approaches provide symptomatic relief, recurrence remains frequent because treatment mainly targets local pathology rather than the patient's overall susceptibility.

Homoeopathic Perspective:

According to homoeopathic philosophy, chronic skin diseases represent manifestations of an underlying constitutional disturbance. Samuel Hahnemann emphasized that successful management requires prescribing on the totality of characteristic symptoms rather than on the pathological diagnosis alone.

Individualization remains the cornerstone of homoeopathic prescribing. Selection of the similimum depends upon:

- Mental generals
- Physical generals
- Thermal state
- Desires and aversions
- Sleep
- Perspiration
- Local symptoms
- Modalities
- Constitutional characteristics

The prescription is therefore unique to each patient despite similar pathological diagnoses.

Several remedies are traditionally indicated in fissured skin conditions, including:

- Petroleum

- Graphites
- Sulphur
- Nitric acid
- Sarsaparilla
- Lycopodium
- Calcarea carbonica
- Mezereum

The final remedy selection should always be based on complete individualization and repertorial analysis.

Objective Assessment:

The Xerotic Assessment Score (XAS) is a validated clinical scoring system used to quantify the severity of heel xerosis and fissuring. The parameters assessed include:

- Dryness/Scaling
- Roughness
- Redness/Inflammation
- Fissuring
- Itching

Each parameter is graded according to severity, and the cumulative score reflects overall disease burden. Serial XAS measurements provide an objective method for evaluating treatment response and minimizing observer bias.

CASE PRESENTATION

Patient Information

A 50 year old female presented to the Outpatient Department of Homoeopathy with complaints of chronic bilateral heel fissures since 8-10 months. The patient reported progressively increasing dryness, thickening of the plantar skin, and painful cracks over both heels, and difficulty walking due to pain. The condition had gradually worsened over time despite intermittent use of over-the-counter moisturizers.

Chief Complaints:

Complaints With Duration	Location & Extension	Sensation Character And Pathology	Modalities Ailments From	Concomitants
C/O B/L cracks in heel which is extending to soles since 8-10 months	Bilateral heels. ↓ Left heel more affected than right. ↓ Posterior and plantar aspect of heels	Tearing pain when pressing on heel Feeling as if skin would break open Burning sensation < in night and after washing Sensation of tightness and hardness around fissures <cold exposure, winter <washing with cold water <walking <pressure >warm water Cold feet even with body feels warm	<Walking. Standing for long duration. Pressure over heel. Dry weather. >by Rest. Soft footwear.	Fatigue Feels feet cols even body feels warm

History of Present Illness

C/O B/L cracks in heel since 8-10 months, dryness developed over the plantar aspect of both heels. Initially, the dryness was mild and ignored. Gradually, thickening of the skin appeared, followed by superficial cracks that later progressed to deep fissures.

Pain increased during prolonged standing and walking. The patient experienced occasional itching and discomfort, particularly after exposure to dust and during winter. There was no active bleeding at presentation, although the fissures occasionally became tender.

Past History

- No previous surgery.
- No history of psoriasis or eczema. (Modify if applicable.)
- No history of major trauma to the feet.
- No known drug allergy.

Family History

- No significant family history

Physical General

- Appetite: 2 meal per day
- Thirst: 6-7 glass per day

- Desires: Spicy
- Aversions: NS
- Intolerance: Not any
- Urine: 5-6 /1 D/N
- Stool: One time/day
- Sleep: Sound sleep
- Dreams: Not significant
- Perspiration: Moderate
- Addictions: Nil
- Thermal reaction: Ambithermal

Mental Generals

The patient was calm, emotionally stable, reserved, and preferred solitude. He performed duties sincerely and became anxious regarding delayed healing of the fissures. There was no history of major psychiatric illness.

General Examination

- Height: 160 cm
- Weight: 58kg
- Tongue: clean
- Nails: pink
- Built &Nutrition: moderate
- Gait: Normal
- Skin: Dry and rough skin

	Grade 0	Grade1	Grade 2	Grade 3
Dryness/Scaling	No scaling	Mild scaling	Moderate scaling	Severe scaling (large, thick scales)☑
Roughness	Smooth skin	Mild roughness	Moderate roughness	Severe roughness☑
Redness/Inflammation	No redness	Mild redness☑	Moderate redness	Severe redness
Fissuring	No fissures	Superficial fissures	Moderate fissures	Deep fissures☑
Itching	No itching	Mild itching	Moderate itching☑	Severe itching

Local Examination

- Inspection of both heels revealed:
- Marked xerosis

- Hyperkeratosis
- Thick yellowish callus formation
- Multiple superficial and deep fissures
- Rough plantar surface
- Mild erythema around fissures
- No active bleeding
- No discharge
- No secondary bacterial infection
- Palpation demonstrated tenderness over deeper fissures, particularly during weight-bearing.

Clinical Diagnosis

Chronic bilateral heel fissures (Plantar heel fissures associated with xerosis and hyperkeratosis).

Differential Diagnosis

- Plantar psoriasis
- Palmoplantar keratoderma
- Hyperkeratotic eczema
- Tinea pedis
- Ichthyosis vulgaris
- Diabetic plantar fissures

Miasmatic Analysis

The predominant miasm was Psora, evidenced by:

- Marked dryness
- Hyperkeratosis
- Chronic itching
- Thickened skin
- Recurrent fissuring

Sycotic features included persistent hyperkeratosis, while syphilitic manifestations were represented by deep painful fissures.

Thus, the case exhibited a mixed miasmatic background with predominant Psora.

Totality of Symptoms

The following characteristic symptoms were selected for reportorial analysis:

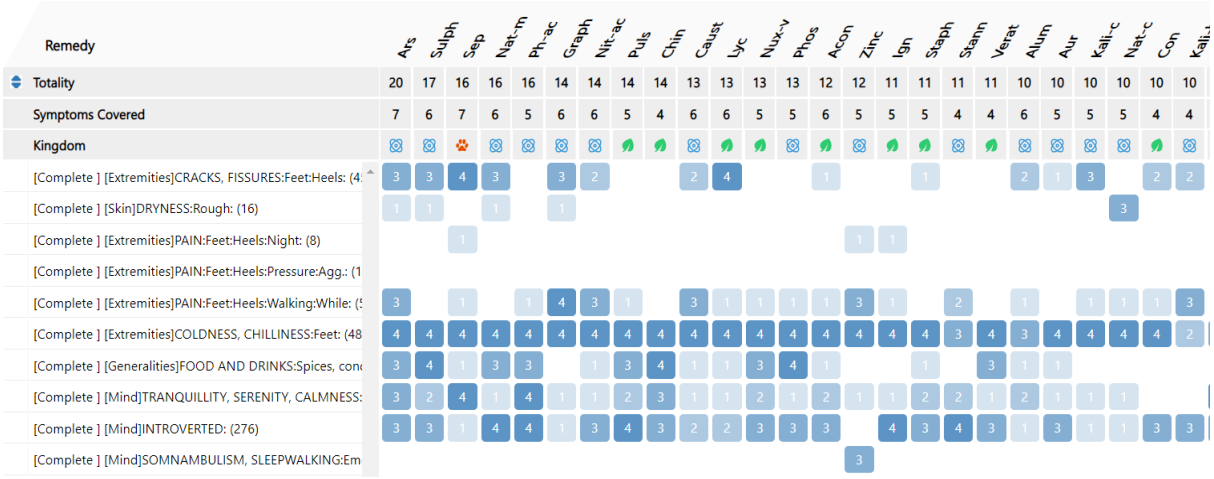
- Cracks and fissures of heels.
- Marked dryness and roughness of skin
- <in night
- <pressure while walking
- <in winter and cold exposure
- Coldness of feet.
- Desire for spicy food.
- Calm, tranquil disposition.

- Introverted nature, Supressed emotion
- Tendency to reoccur
- Feet cold to touch

Reportorial Analysis

The principal rubrics selected were:

- Extremities – Cracks – Fissures – Heels
- Skin – Dryness – Roughness
- Extremities – Pain – Heels – Walking
- Extremities – Pain – Pressure aggravates
- Generalities – Desire for spicy food
- Mind – Tranquillity, serenity, calmness
- Mind – Introverted
- Mind- Somnambulism (sleepwalking)



- The reportorial analysis yielded the following leading remedies:

Remedy

Score	Remedy
Arsenicum album	20
Sulphur	17
Sepia	16
Natrum Mur	16
Phosphorus	16
Graphites	14
Nitric acid	14

Remedy Selection: Sulphur 200

Prescription:
Sulphur 200 weekly 2 doses
SL 4 pills TDS for 15 days

Auxiliary Measures:

- Wash feet with lukewarm water and mild soap.
- Dry carefully, especially between the toes.
- Avoid prolonged barefoot walking.
- Wear soft, closed footwear.
- Increase water intake.
- Maintain a balanced diet.
- Avoid harsh detergents

Result:

Symptoms	Intensity of symptoms	
	Pre score (First visit)	Post score (last visit)
Dryness/Scaling	3	1
Roughness	3	1
Redness/Inflammation	1	1
Fissuring	3	1
Itching	2	1
Total	12	5

CONCLUSION

This case demonstrates clinically meaningful improvement in chronic heel fissures following individualized homoeopathic treatment supported by appropriate local foot care. Objective assessment using the Xerotic Assessment Score documented a reduction in disease severity from 12 to 5, accompanied by decreased pain, reduced fissuring, improved skin hydration, and enhanced functional ability.

The findings suggest that individualized homoeopathy may have a role as a complementary therapeutic approach in the management of chronic heel fissures. However, higher-level clinical evidence from well-designed randomized controlled trials is necessary before definitive conclusions regarding efficacy can be drawn.