

Chronic Plantar Fissures with Xerosis and Hyperkeratosis: An Individualized Homoeopathic Case Report with Serial Outcome Assessment

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Abstract:

Plantar fissures are common dermatological manifestations characterized by dryness, hyperkeratosis, scaling, and cracking of the plantar skin. Deep fissures may produce pain, tenderness, bleeding, and difficulty in weight-bearing activities. Occupational exposure, prolonged standing, walking, barefoot activity, cold weather, and inadequate skin care may contribute to their development and persistence. Individualized homoeopathic case management considers the presenting pathology along with characteristic modalities, physical generals, mental generals, and associated symptoms.

Case Presentation

A 50-year-old male farmer from Morbi presented with painful cracks over both soles for six months, more marked on the right foot. The fissures were predominantly located over the great toe and weight-bearing areas of the right foot. The complaints were associated with marked dryness, roughness, thick hyperkeratosis, callosities, scaling, and occasional bleeding. The pain was described as deep and cutting, with burning after prolonged walking and a sensation as though the skin would split open. Complaints were aggravated by winter, cold weather, cold water, dry weather, prolonged walking, prolonged standing, and barefoot walking, while warmth, warm-water washing, rest, and wearing socks provided relief.

The patient was chilly, fastidious, hardworking, and responsible towards his family, irritable from trifles, and anxious regarding financial security and his ability to continue farming. Physical examination revealed marked plantar xerosis, hyperkeratosis, roughness, callosities, and multiple deep linear fissures, with the right foot more severely affected than the left.

❖ Introduction

Plantar fissures, commonly referred to as cracked heels when predominantly involving the heel, are characterized by linear breaks in dry, thickened, and relatively inelastic skin. They may occur as an

isolated manifestation of xerosis or as part of several dermatological conditions. Mild fissuring may remain asymptomatic, whereas deeper fissures can result in pain, tenderness, bleeding, difficulty in walking, and impairment of occupational activities.

The pathogenesis of plantar fissuring is multifactorial. Excessive dryness reduces the elasticity of the stratum corneum, while hyperkeratosis produces thickened skin that is less capable of accommodating mechanical stress. Repeated pressure and friction over weight-bearing areas may subsequently lead to cracking. Environmental factors such as cold temperatures, dry weather, and low humidity can further increase skin dryness.

Occupational factors are particularly relevant in individuals involved in agricultural work. Farmers may have prolonged exposure to soil, dust, sunlight, cold and dry environmental conditions and may spend several hours standing or walking. Barefoot activity or use of open footwear may further increase mechanical stress and environmental exposure.

The clinical assessment of a patient with chronic plantar fissures should include the duration and progression of symptoms, distribution, severity, pain characteristics, aggravating and ameliorating factors, occupational exposure, personal habits, previous dermatological disease, systemic illness, and family history.

In individualized homoeopathic practice, the disease pathology is considered together with the characteristic features of the individual patient. Mental generals, physical generals, particulars, modalities, concomitants, and maintaining factors are incorporated into the totality of symptoms.

The present case describes a chronic case of bilateral painful plantar fissures in a farmer and illustrates the process of homoeopathic case-taking, analysis, reportorial totality; remedy selection, management, and follow-up.

❖ Case Report

❖ Patient Profile

Parameter	Details
Patient initials	VH
Age	50 years
Sex	Male
Religion	Hindu
Marital status	Married
Family size	7
Education	12th standard
Occupation	Farmer
Dietary habit	Vegetarian
Socioeconomic status	Lower-middle class
Residence	Morbi, Gujarat
Diagnosis	Chronic painful plantar fissures
Duration	6 months

Complaints With Duration	Location & Extension	Sensation Character And Pathology	Modalities Ailments From	Concomitants
Painful cracks over both soles, more marked over the great toe and forefoot of the right foot, for 6 months. Severe dryness and roughness of both soles for 6 months. Deep fissures occasionally bleeding during walking. Difficulty in prolonged walking and standing due to pain.	Lower extremities ↓ Bilateral plantar surface ↓ Right foot More affected than left. ↓ Mainly involving: Great toe	Deep cutting pain. Burning pain after prolonged walking. Tightness of skin. Excessive dryness. Roughness. Skin feels hard and stiff. Occasional itching. Pain as if skin would split open while walking.	< from Winter season. Cold weather. Cold water. Walking. Standing for long hours. Barefoot walking. Early morning. Dry weather. > From Warm water washing. Warm applications. Rest. Wearing socks.	Occasional bleeding from fissures. Thick callosities. Excessive dryness of hands during winter. Constipation occasionally.

❖ Chief Complaint

Complaints

- The patient presented with the following complaints:
- Painful cracks over both soles for six months, right more than left.
- Severe dryness and roughness of both soles for six months.
- Deep fissures with occasional bleeding during walking.
- Difficulty in prolonged walking and standing because of pain.
- Thick callosities and hyperkeratotic skin over weight-bearing areas.
- The right foot was more severely affected, particularly the great toe and forefoot.

❖ History of Presenting Complaint

The patient was apparently well six months before presentation, when he gradually developed excessive dryness of the skin over both soles. The dryness was followed by increasing roughness and thickening of the plantar skin.

With progression, multiple cracks developed, particularly over the weight-bearing areas and great toe of the right foot. The fissures gradually became deeper and painful.

The pain was described as deep cutting pain, accompanied by burning after prolonged walking. The patient described a sensation of tightness of the skin and felt as though the skin would split open during walking.

Some fissures occasionally bled during walking. The patient also experienced occasional itching. The condition interfered with prolonged standing and walking and subsequently affected his ability to perform agricultural work comfortably.

❖ Past History

No significant past medical history was reported.

❖ Family History

Father: Hypertension

Mother: Eczema

The maternal history of eczema was noted as part of the family history.

❖ Personal History

Appetite: Regular.

Thirst: Approximately 7–8 glasses of water per day.

Desires: Sweets.

Aversions: No specific aversion.

Intolerance: None specific.

Urine: Approximately 5–6 times daily.

Stool: Occasional constipation.

Sleep: Generally sound, occasionally disturbed.

Dreams: No specific dreams.

Perspiration: Profuse over the whole body.

Addiction: Tobacco.

❖ Thermal Characteristics

The patient was predominantly **chilly** and preferred warmth.

Parameter	Winter	Summer	Monsoon
Bath	Hot water	Lukewarm water	Lukewarm water
Fan/AC	No	Yes	Yes
Covering	Dhusha	Shawl/light covering	Chadar
Clothing	Warm clothing	Normal clothes	Normal clothes

❖ Life Space Investigation

Birth and Childhood

The patient was born in his native village and belonged to a lower-middle-class joint family. His parents depended primarily on farming for their livelihood. Childhood was financially difficult, but the family remained united and supportive.

He was physically active from childhood and regularly helped his father with agricultural work after school. He described himself as hardworking, sincere, and obedient.

School Life

The patient attended the village school and completed education up to the 12th standard. He was an average student and preferred outdoor activities and agricultural work to academic pursuits.

He was considered disciplined and punctual and maintained good relationships with classmates. He enjoyed outdoor sports, particularly kabaddi and cricket.

Marriage Life

The patient married at 24 years of age. He reported a good relationship with his wife and children.

He is the primary earning member of the family and considers himself responsible for household expenditure and family welfare.

Present Life

The patient continues to work as a farmer. His work involves prolonged standing and walking, often in fields where he may work barefoot or in open footwear.

Because of the painful fissures, he developed difficulty in prolonged walking and standing. He expressed concern that worsening of the condition could interfere with his agricultural work and affect his family's financial security.

Despite the discomfort, he continues to work because of his responsibilities towards his family.

❖ Patient as a Person

- The patient was described as:
- Hardworking
- Honest
- Sincere
- Punctual
- Industrious
- Fastidious
- Responsible
- Irritable over trifles
- Concerned about family welfare
- Anxious regarding financial security
- He prefers cleanliness and likes his personal belongings to be arranged properly. He dislikes laziness and values discipline.
- He is emotionally attached to his family but does not readily express his emotions.

❖ Mental Generals

The characteristic mental symptoms obtained were:

Fastidiousness

The patient is particular about cleanliness and arrangement of personal belongings and surroundings.

Irritability

He becomes irritated over small matters, especially when interrupted during work.

Anxiety

He has anxiety regarding his financial condition, farming income, and the future of his family.

Responsibility

He considers himself responsible for his family and household expenses.

Industriousness

He is hardworking and persistent despite physical discomfort.

These mental characteristics were considered along with the physical generals and particulars while forming the totality.

❖ Physical Generals

The important physical generals were:

Chilly constitution

Aggravation from cold

Aggravation in winter

Desire for sweets

Occasional constipation

Profuse perspiration

Preference for warmth

Amelioration from warm applications

Winter-associated dryness of skin

❖ General Physical Examination**❖ Vital Signs**

Parameter	Finding
Pulse	80/min
Respiratory rate	14/min
Blood pressure	126/82 mmHg
Temperature	98.6°F

❖ Anthropometry

Height: 160 cm

Weight: 60 kg

BMI: approximately 23.4 kg/m²

❖ General Examination

Built and nutrition: Average

Complexion: Wheatish

Tongue: NAD

Nails: Pale

Gait: Mild antalgic gait

❖ Local Examination

- Examination of both feet revealed:
- Bilateral plantar involvement
- Right foot more affected than left
- Marked xerosis

- Thick hyperkeratosis
- Rough skin
- Thick calloused plaques
- Yellowish-brown hyperkeratotic areas
- Dry adherent scales
- Multiple deep linear fissures
- Predominant involvement of the great toe and weight-bearing areas
- Tenderness over deep fissures
- History of occasional bleeding
- Pain on weight-bearing
- Some fissures were described as extending into the dermis.
- The surrounding skin was dry and hyperkeratotic.

❖ **Xerosis Assessment**

The severity of the plantar condition was assessed using the recorded Xerosis Assessment parameters.

Parameter	Grade
Dryness/Scaling	3
Roughness	3
Redness/Inflammation	1
Fissuring	3
Itching	1
Total	11

The initial score of **11** indicated marked dryness, severe roughness, and deep fissuring.

❖ **Systemic Examination**

- **Respiratory System:** Bilateral air entry present.
- **Cardiovascular System:** S1 and S2 heard clearly. No murmur.
- **Central Nervous System:** Patient conscious and oriented.
- **Gastrointestinal System:** Abdomen soft and non-tender.
- **Locomotor System:** No deformity. Pain on weight-bearing due to plantar fissures.
- **Skin:** Bilateral plantar xerosis with hyperkeratosis, roughness, scaling, callosities, and deep fissuring. Right foot was more affected than left.

❖ **Clinical Diagnosis**

Based on the history and physical examination, the clinical diagnosis was:

Chronic Bilateral Painful Plantar Fissures with Xerosis and Hyperkeratosis, Right > Left

The lesions were associated with:

- Severe xerosis
- Hyperkeratosis
- Callosities
- Deep fissuring
- Pain on weight-bearing
- Occasional bleeding
- Occupational aggravation

❖ **Differential Diagnosis**

A comprehensive PG-level assessment should consider the following differential diagnoses:

- **Xerosis with Mechanical Fissuring**

The marked dryness, winter aggravation, hyperkeratosis, occupational mechanical stress, and deep fissures support this possibility.

- **Hyperkeratotic Tinea Pedis**

Hyperkeratotic or moccasin-type tinea pedis may present with diffuse plantar scaling and dryness. Fungal examination should be considered where clinically indicated.

- **Palmoplantar Psoriasis**

Psoriasis may produce thick hyperkeratotic plaques with painful fissuring. Examination of nails and other body sites is important.

- **Eczema**

Eczematous disorders can produce dryness, scaling, itching, and fissuring. However, prominent inflammatory changes were not the dominant feature in this case.

- **Acquired Keratoderma**

Marked thickening of the plantar skin with fissuring may occur in acquired keratoderma and requires consideration according to the distribution and history.

- **Systemic Disorders**

Diabetes mellitus, hypothyroidism, nutritional disorders, and other systemic conditions may contribute to dry or fissured skin and should be considered where clinically appropriate.

❖ **Case Analysis**

The case was analyzed under the following headings.

Mental Generals

- Fastidiousness
- Irritability from trifles
- Anxiety regarding financial security
- Responsibility towards family
- Industriousness

Physical Generals

- Chilly patient
- Aggravation from cold
- Aggravation during winter

- Desire for sweets
- Occasional constipation
- Better from warmth

Particulars

- Deep painful fissures of soles
- Right > left
- Marked dryness
- Rough thickened skin
- Hyperkeratosis
- Callosities
- Occasional bleeding
- Pain during weight-bearing
- Aggravation from walking and standing
- Improvement from warmth

❖ Evolution of Symptoms

The disease developed progressively.

Initial Stage

Marked dryness and roughness developed over both soles.

Progressive Stage

The skin became increasingly thickened and hyperkeratotic, particularly over weight-bearing areas.

Fissuring Stage

The thickened skin developed multiple linear fissures.

Functional Stage

The fissures became painful and occasionally bled during walking, resulting in difficulty with prolonged standing and agricultural work.

The chronic occupational exposure and repeated mechanical stress were considered possible maintaining factors.

❖ Totality of Symptoms

The final totality consisted of:

Mental Generals

- Fastidious
- Irritable from trifles
- Anxiety regarding livelihood
- Responsible and hardworking

Physical Generals

- Chilly
- Aggravation from cold
- Aggravation during winter
- Desire for sweets
- Better from warmth
- Occasional constipation

Particulars

- Deep painful cracks of soles
- Right > left
- Marked dryness
- Rough thickened hyperkeratotic skin
- Thick callosities
- Occasional bleeding
- Aggravation from prolonged walking and standing
- Aggravation from cold
- Amelioration from warmth and rest

❖ Repertorial Totality

The recorded repertorial concepts were:

- Mind – Fastidious
- Mind – Irritability – from trifles
- Extremities – Cracks – soles
- Skin – Dryness
- Skin – Fissures
- Skin – Thickened skin/Callosities
- Generalities – Cold – aggravates
- Generalities – Winter – aggravation
- Desire – Sweets

Remedy	Sulph	Graph	Petr	Merc	Nit-ac	Calc	Sep	Lyc	Art	Kali-c	Albe	Puls	Con	Nat-m	Staph	Med	Sil	Psor	Aur-m-n	Aur-g	Carc	Lob	Alum
Totality	25	21	19	17	17	16	16	16	14	13	12	12	11	11	11	10	10	10	10	10	10	10	9
Symptoms Covered	8	7	6	6	5	5	5	4	4	4	4	4	4	4	4	5	5	4	3	3	3	3	6
Kingdom	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒
[Complete] [Extremities]CRACKS, FISSURES:Feet:Heels: (4)	3	3		1	2	1	4	4	3	3	2		2	3	1		1						2
[Complete] [Extremities]CRACKS, FISSURES:Deep: (15)	1	1	4	3	4											1							1
[Complete] [Extremities]DRYNESS:Feet:Soles: (9)	3																						
[Complete] [Skin]CRACKS, FISSURES:Winter: (16)	4	3	4	3		4	4											3					1
[Complete] [Mind]FASTIDIOUS: (146)	3	3	1				1	4	3	3	4	4	3	3		1	1		3	3	4	3	1
[Complete] [Mind]ANXIETY:Health, about: (325)	4	4	3	3	4	4	4	4	4	3	3	4	4	4	4	3	3	3	3	3	3	4	3
[Complete] [Generalities]FOOD AND DRINKS:Sweets:Desi	4	4	3	3	3	4	3	4	4	4	3	3	2	1	3	4	1	3	4	4	3	3	
[Complete] [Skin]CRACKS, FISSURES:Bleeding: (23)	3	3	4	4	4	3						1			3	1	4	1					1

❖ Selection of Remedy

Petroleum

Based on the recorded totality, Petroleum was selected as the individualized remedy.

The principal features considered in the selection included:

Marked dryness of skin

Roughness

Thickened skin

Deep fissures

Painful cracking

Winter aggravation

Cold aggravation

Amelioration from warmth

Fissuring associated with dryness

The remedy was selected on the basis of the overall symptom similarity rather than merely the pathological diagnosis of cracked heels.

❖ **Prescription**

Initial Prescription

Petroleum 200

Two doses were prescribed, with one dose every third day.

SL – 4 pills three times daily for 15 days.

❖ **General Management**

- The patient was advised to:
- Avoid barefoot walking.
- Use soft, cushioned footwear.
- Avoid prolonged standing whenever possible.
- Wash feet with lukewarm water.
- Dry the feet thoroughly after washing.
- Avoid prolonged exposure to cold.
- Wear cotton socks during winter.
- Avoid harsh soaps and detergents.
- Maintain proper foot hygiene.
- Maintain adequate hydration.
- Use appropriate moisturizing/emollient skin care.
- Take adequate rest after prolonged agricultural work.
- Maintain a balanced diet containing fruits, vegetables, and adequate protein.
- These measures are important because mechanical and environmental factors may contribute to the persistence of plantar fissures.

Assessment of Treatment Outcome

The recorded pre- and post-treatment scores were:

Clinical Parameter	Pre-treatment Score	Post-treatment Score
Dryness/Scaling	3	1
Roughness	3	0
Redness/Inflammation	1	0
Fissuring	3	1
Itching	1	0
Total	11	2

The total score decreased from **11 to 2**.

Therefore, the recorded composite symptom score showed an approximately **81.8% reduction** from baseline.



❖ **Outcome of the Case**

The patient demonstrated progressive improvement in:

Pain

Dryness

Roughness

Scaling

Fissuring

Hyperkeratosis

Bleeding

Weight-bearing discomfort

Occupational limitation

At the final follow-up, the patient reported comfortable routine walking and improved ability to perform agricultural activities.

The clinical findings also demonstrated near-complete healing of the fissures.

❖ **Discussion**

Plantar fissures are the consequence of complex interactions between skin barrier dysfunction, xerosis, hyperkeratosis, environmental factors, and mechanical stress. In this patient, several potential maintaining factors were identified.

The patient was a farmer whose daily occupation involved prolonged standing and walking. He also reported barefoot or open-footwear activity and exposure to cold and dry weather. Repeated mechanical loading of thickened plantar skin can produce stress concentration, leading to fissuring.

Cold weather was a prominent aggravating factor. The patient's complaints were particularly worse during winter and improved with warmth. This temperature-related modality was considered important during individualized homoeopathic analysis.

The presence of thick hyperkeratotic plaques and callosities over weight-bearing areas suggests an important mechanical component. Hyperkeratotic skin becomes less flexible and may crack when subjected to repeated pressure.

The patient's mental characteristics included fastidiousness, irritability from trifles, industriousness, responsibility, and anxiety regarding family financial security. In individualized homoeopathic case analysis, these features were considered alongside the physical generals and local symptoms.

The selected remedy was *Petroleum*, based on the recorded totality, particularly the marked dryness, roughness, fissuring, and cold/winter aggravation.

The progressive improvement observed during follow-up was documented using both subjective symptoms and clinical findings. The composite score decreased from 11 to 2, indicating substantial improvement according to the recorded scoring system.

However, the interpretation of a single case requires caution. The patient received supportive foot-care advice, and environmental and occupational factors may have changed during the observation period. Furthermore, chronic plantar fissures may fluctuate naturally. Therefore, the observed improvement demonstrates a temporal clinical association with the management but does not independently establish causation or efficacy of *Petroleum*.

❖ Conclusion

The present case describes a 50-year-old male farmer suffering from chronic bilateral painful plantar fissures associated with severe xerosis, hyperkeratosis, roughness, callosities, and occasional bleeding. The right foot was more severely affected, particularly over the great toe and weight-bearing areas.

The symptoms were aggravated by cold, winter, cold water, dry weather, prolonged standing, walking, and barefoot activity, and were ameliorated by warmth, warm-water washing, rest, and wearing socks. The constitutional picture included a chilly thermal state, desire for sweets, occasional constipation, fastidiousness, irritability from trifles, industriousness, and anxiety regarding financial security.

On the basis of the recorded totality of symptoms, *Petroleum* 200 was selected. Subsequent follow-ups documented progressive improvement in pain, dryness, roughness, scaling, fissuring, hyperkeratosis, and occupational limitation. The recorded composite score decreased from 11 to 2, representing an approximately 81.8% reduction.

The case demonstrates the role of individualized case analysis and systematic follow-up in the management of chronic plantar fissures. However, as an uncontrolled single case with concomitant supportive measures, the findings cannot establish a causal therapeutic effect of *Petroleum*. Future studies using standardized diagnostic criteria, validated outcome measures, appropriate controls, and longer follow-up would be required to determine the efficacy of individualized homoeopathic treatment in chronic plantar fissures.