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Role of constitutional homoeopathic medicine in palmoplantar keratoderma: A case study

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Abstract
Plantar Palmar Keratosis is a dermatological condition characterized by hyperkeratosis on the triumphs of the hands and soles of the bases. This review aims to give a detailed disquisition of PPK, fastening on its bracket, inheritable mutations, clinical features, individual approaches, and remedial strategies. Hereditary forms of PPK are nearly linked to mutations in keratin genes, while acquired cases can arise from colorful environmental or systemic triggers. The clinical inflexibility of PPK varies, ranging from mild thickening to painful, enervating crevices. This literature review also highlights advances in inheritable exploration, slipping light on the molecular mechanisms behind PPK, as well as arising curatives, including new retinoids and gene curatives. Despite remedial advances, PPK poses significant challenges in operation, particularly in severe cases.
This case study explores the operation of Plantar Palmar Keratosis in a 35 years old lady who turned to homoeopathy due to dissatisfaction with conventional curatives. The patient suffered from deep cracks and violent itching on both soles exacerbated by washing. This case revealed that Homoeopathy works wonderfully in similar pathological habitual cases without any significant internal symptoms.
Homoeopathic treatment was acclimatized to her physical symptom profile and indigenous characteristics. Remedy was specified grounded on symptom similarity and repertorization. Within 30 days, the patient showed significant improvement of itching and pain afterwards cracks healed by itself.
This case shows homoeopathy's potential as an effective or complementary treatment for Plantar Palmar Keratosis, emphasizing personalized care that considers the patient's overall health. Further research is required to validate these findings and elucidate the mechanisms by which homoeopathic remedies exert their therapeutic effects in managing Planto Palmar Keratosis.

Keywords: Plantar palmar keratosis, chronic untreated case, cracks, fissures, homoeopathy, case study

Introduction
Plantar-Palmar Keratosis (PPK) involves abnormal thickening of the skin on the palms and soles. It can be hereditary or acquired, with hereditary forms presenting in childhood and linked to genetic mutations, such as in KRT1, KRT9, or AAGAB genes. Hereditary PPK is divided into diffuse, focal, and punctate forms, with the diffuse type affecting the entire surface of palms and soles. Syndromic forms can also involve systemic issues like hearing loss or cardiac conditions.
Acquired PPK arises later in life, typically due to systemic diseases (psoriasis, eczema) or environmental factors. Diagnosis includes clinical assessment, family history, and genetic testing, with treatment focused on managing symptoms. Keratolytics, topical or systemic retinoids, and addressing underlying causes are commonly used. Though gene therapy shows promise, it remains in experimental stages.
PPK significantly impacts quality of life, causing pain, limited mobility, and psychological distress. Comprehensive care, including physical and psychosocial support, is essential for improving patients' well-being.
This case study presents a 35-year-old female patient with Plantar Palmar Keratosis who opted for homoeopathic treatment after experiencing ineffective treatments and conventional therapies. The study aims to highlight the efficacy of homoeopathy in managing pathological condition by addressing both the symptoms and constitutional factors contributing to the condition. By exploring this case, we can understand that to treat chronic pathological case when there is no significant mental symptoms are present. Only with the help of physical symptoms and constitutional symptoms this type of case can be treated.

Discussion

Plantar-Palmar Keratosis (PPK) encompasses a group of disorders defined by the abnormal thickening of the skin (hyperkeratosis) specifically on the palms and soles. The condition can be inherited or acquired, with the inherited forms often presenting in childhood and acquired forms emerging later in life, usually secondary to systemic diseases or environmental exposures. Understanding the genetic underpinnings and pathophysiology of PPK is critical for accurate diagnosis and treatment. This review will focus on the clinical, genetic, and therapeutic aspects of both hereditary and acquired PPK.

Classification of Plantar-Palmar Keratosis

PPK can be classified into heritable and acquired forms

- Hereditary PPK these are farther divided intonon-syndromic and syndromic types. Non-syndromic forms affect only the skin, while syndromic types are associated with systemic abnormalities similar as deafness, heart complaint, or malice. The three main heritable forms include
- Diffuse PPK Affects the entire face of the triumphs and soles, generally associated with KRT1 and KRT9 mutations.
- Focal PPK Manifests as localized hyperkeratotic pillars, frequently pressure- convinced.
- Punctate PPK Characterized by small, keratotic lesions, frequently linked to AAGAB mutations (Blaydon *et al.*, 2013) [1].

Acquired PPK This form arises due to systemic conditions similar as psoriasis, eczema, infections, or as a side effect of specifics. Environmental factors, similar as habitual mechanical stress or exposure to chemicals, can also contribute to the development of PPK.

Inheritable Mutations Associated with PPK

Inheritable mutations, particularly those affecting keratin genes, are central to heritable PPK. Mutations in KRT1, KRT9, and KRT16 genes lead to structural abnormalities in keratin fibers, causing skin fragility and hyperkeratosis (Elias *et al.*, 2018) [3]. Mutations in other genes like DSP (desmoplasia) and GJB2 (connexin 26) are associated with syndromic forms of PPK, which include fresh clinical instantiations similar as hail loss or cardiac abnormalities (Pfander *et al.*, 2016).

Recent studies also punctuate the part of the AAGAB gene, which has been linked to punctate forms of PPK. The AAGAB gene is allowed to regulate cell adhesion, and its dysfunction leads to abnormal keratinocyte isolation and keratin accumulatio (Blaydon *et al.*, 2013) [1].

Clinical Features

PPK manifests primarily as hyperkeratotic plaques on the palms and soles. The severity of the hyperkeratosis can range from mild thickening to severe, painful fissures, significantly affecting mobility and daily activities. Depending on the form of PPK, the clinical presentation can vary:

1. **Diffuse PPK:** This form presents as uniform thickening across the entire palm or sole. The skin is often yellowish or erythematous and can crack, leading to pain and discomfort.
2. **Focal PPK**: Typically localized to pressure points, focal PPK is seen in areas subjected to frequent mechanical stress, such as the heel or metatarsal regions.
3. **Punctate PPK**: Characterized by multiple small, hard nodules scattered across the palms and soles. These can merge into larger plaques over time.

Syndromic forms of PPK may also present with extracutaneous symptoms, including nail dystrophy, hyperhidrosis, hearing loss, or cardiac abnormalities.

Diagnosis

The diagnosis of PPK is based on clinical presentation, family history, and genetic testing. Genetic testing is especially useful in hereditary forms to identify specific mutations, such as in the KRT1, KRT9, or AAGAB genes, aiding in the precise classification of the disorder. In cases of acquired PPK, a thorough history to identify underlying systemic conditions, drug use, or occupational exposures is essential. Skin biopsy is sometimes performed, showing characteristic features of hyperkeratosis, acanthosis, and parakeratosis.

Treatment Strategies

Managing PPK remains challenging due to its chronic nature and resistance to therapy. Treatment options aim to soften the hyperkeratosis, alleviate pain, and improve function. Key therapeutic approaches include:

1. **Keratolytics:** Agents such as salicylic acid and urea are widely used to reduce the thickness of hyperkeratotic skin. These treatments help by breaking down excess keratin and improving skin pliability (Steijlen *et al.*, 2020) [6].
2. **Topical Retinoids:** Tazarotene and other retinoids help normalize keratinocyte differentiation and reduce epidermal hyperplasia. Retinoids can be effective in both hereditary and acquired forms, especially in patients who do not respond to keratolytics (Cambiaghi *et al.*, 2017) [2].
3. **Systemic Retinoids:** Oral retinoids, such as acitretin, are reserved for severe cases of PPK, especially in patients with diffuse or widespread involvement. However, they are associated with significant side effects, including teratogenicity, necessitating careful monitoring (Torrelo *et al.*, 2019) [7].
4. **Gene Therapy and Emerging Treatments:** Advances in genetic research are opening avenues for gene-based therapies. Correcting the underlying genetic mutations, such as KRT9 or AAGAB mutations, through targeted molecular therapies, holds promise but is still in experimental stages (Blaydon *et al.*, 2013) [1].
5. **Treatment of Underlying Conditions:** In acquired PPK, addressing the underlying systemic disease or discontinuing causative drugs can lead to improvement in symptoms. For example, treating psoriasis or eczema with appropriate anti- inflammatory agents can reduce the severity of PPK.

Psychosocial Considerations

The physical limitations caused by PPK, such as pain, difficulty walking, or manual dexterity issues, can severely impact a patient's quality of life. The visible nature of the condition often leads to embarrassment and social stigma, contributing to psychological distress. Supportive care,

counseling, and patient education are important aspects of managing the psychosocial impact of PPK (Kumaran *et al.*, 2018) [4].

Case Study

Detail	Information
Name of Patient	ABC
Age	35 Years
Sex	Female
Address	Bharuch
Religion	Hindu
Education	Graduate
Occupation	Housewife
Marital Status	Married

Chief Complaints

A 35 years old female patient who is a housewife & hindu by reliogion came with the complaint of palmoplantar keratoderma. Which started 6 months ago on both palms & heels & gradually progressed and now it's on whole sole of both feet. There is severe cracks on sole present & it's too much painful that lady can't even stand for long time.

Location	Sensation	Modalities	Concomitants
Both Palms & Soles	Deep Cracks which are Painful+3 Itching	< Washing	

- **Associated Complaints:** Not Significant.
- **History of treatment taken:** Taken Allopathic treatment but it was ineffective.
- **Past History:** Nothing Specific
- **Family History:** Nothing Specific

Physical Generals

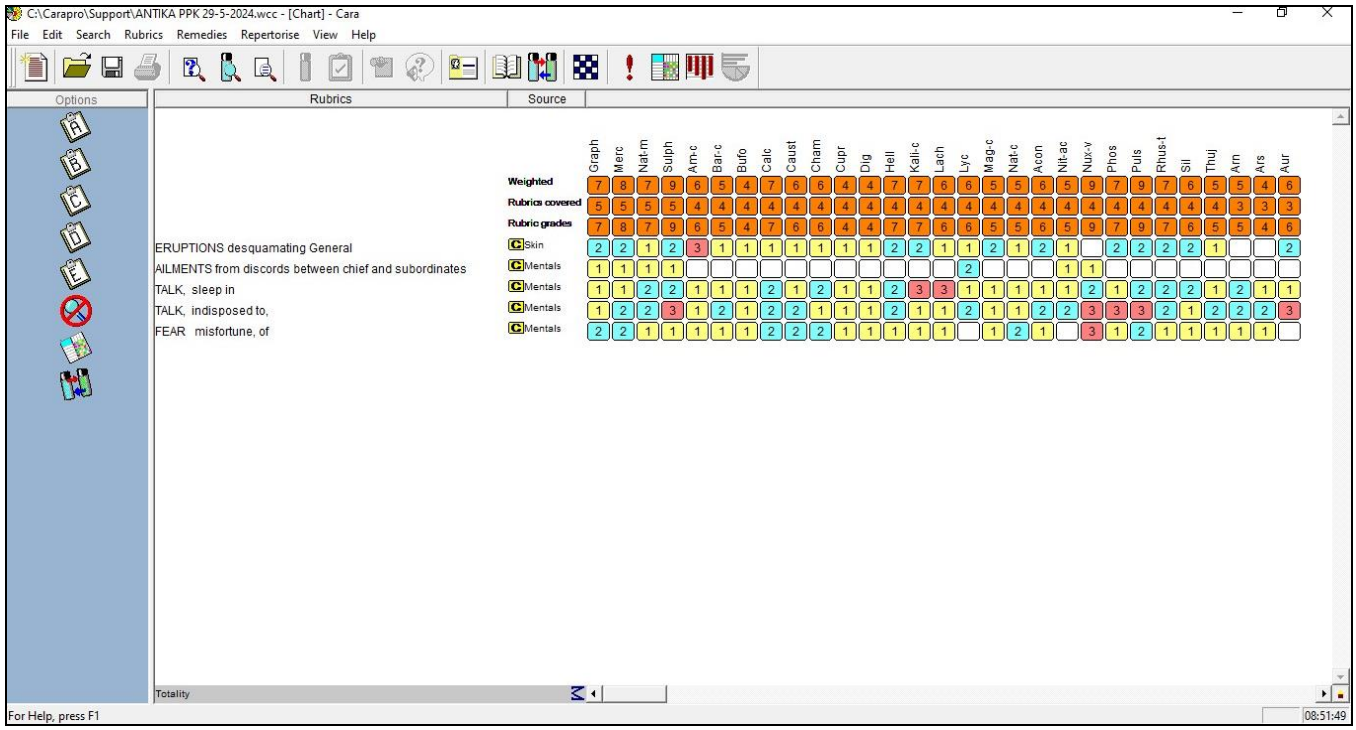
1. **Appetite:** Good 3 Meals/Day, can't tolerate Hunger
2. **Thirst:** Thirsty
3. **Bowel:** Frequency - Once a day Consistency - Soft Color - Yellow
4. **Urine:** Frequency - 7-8 times/day Color - Pale Yellow
5. **Perspiration:** Quantity - Profuse Location - Forehead & Axilla Odor - No Staining -Occasional
6. **Desire:** Specific bitter food
7. **Aversion:** Nothing Specific
8. **Sleep:** talk during sleep, Position - Left Side, Duration- 7-8 hours, Disturbance - No
9. **Dreams:** No Dreams
10. **Thermal:** Chilly
11. **Tendencies:** Easily catches cold
12. **Addiction:** No

Life Space: Patient was not ready to talk about her life space because she heard about homoeopathic case taking that each & every emotional, intellectual aspects are taken consideration during case taking so she was not ready to share anything**.** But later on she shared about her issues with mother-in-law.

Physical Examination

1. **General Appearance:** thin
2. **Skin:** Whitish, Healthy
3. **Nails:** Pinkish
4. **Tongue:** Pink
5. **Hair:** Silky
6. **Conjunctiva:** Pink
7. **Diagnosis:** Plantar Palmar Keratosis
8. **Investigations:** None
9. **Diagnosis of the Dominant Miasm:** Syco-Syphilitic

Repertorial Totality

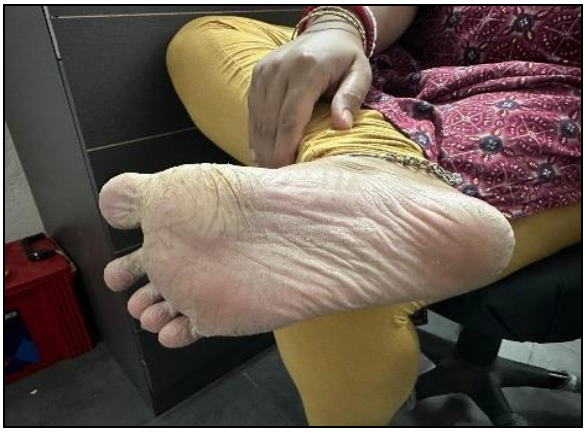


Prescription

1. Nat Mur 200 1 dose
2. SL 4 pills TDS for 15 Days.

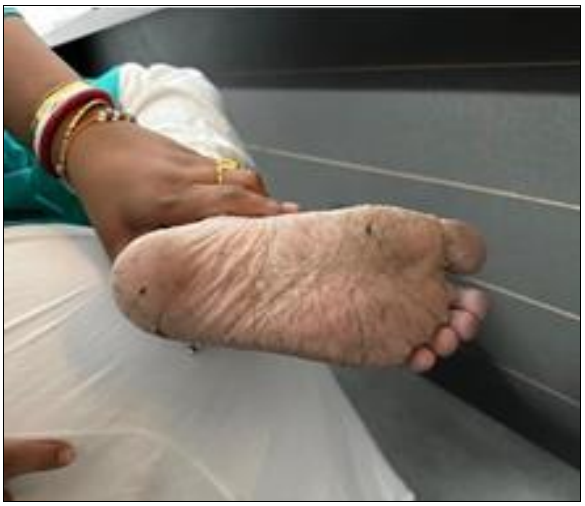
(Dose was repeated one time after 1st prescription in 1 Month)

Pictures

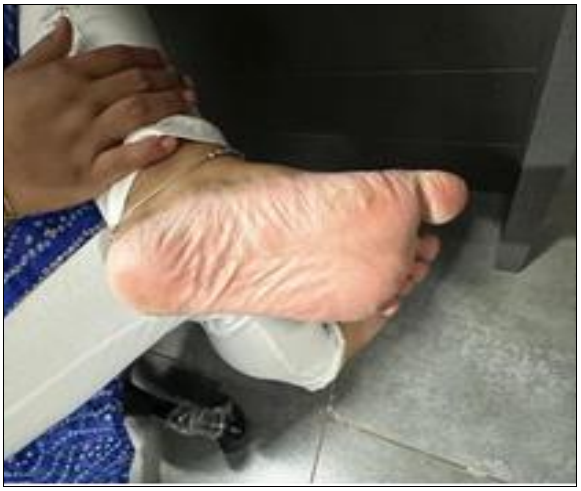


Before

After



Before



After

Materials and Methods

Material Used: Cara Homoeopathic Software Methodology: Clinical Study Site: P P Savani Homoeopathic Hospital

Results

The patient responded positively to homoeopathic treatment for Plantar Palmar Keratosis, experiencing a remarkable reduction in pain and itching along with healed cracks over a period of 1 month. Remedy tailored to her symptom profile, includes Natrum Muriaticum, effectively addressed her symptoms. This case study shows effectiveness of homoeopathy in managing pathological condition by addressing both the symptoms and constitutional factors contributing to the condition. Further research is warranted to validate these findings and explore the mechanisms underlying homoeopathic treatment in dermatological conditions.

Conclusion: In cases of palmo-plantar keratosis where only physical symptoms are present, the successful treatment with homoeopathic medicine demonstrates the effectiveness of individualized remedy selection based on the specific characteristics of the skin condition. Homoeopathy addresses the localized symptoms like thickened, rough skin, and painful cracks by stimulating the body's healing response. Without the need for considering mental or emotional aspects, the treatment still yields positive outcomes, improving the skin's texture and reducing discomfort. This showcases homoeopathy's potential to offer significant relief, even in cases where the focus is solely on physical manifestations. Further research is needed to validate these findings and explore broader applications in dermatological care.

Acknowledgments

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