Treatment of Palmo-plantar Keratoderma of Unna-Thost with Tazarotene Foam 0.1%

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INTRODUCTION

Keratoderma of Unna-Thost is an autosomal dominant genetic disorder. It presents with thick keratotic plaques of the palms and soles, often with a red border. Hyperhidrosis is a common feature. Secondary bacterial and fungal infections can occur, resulting in a chronic malodorous condition that is difficult to live with. [1]

In earlier times, Keratoderma of Vorner was thought to be a different clinical entity. However, genetic studies have confirmed mutations in the keratin 1 and keratin 9 genes in both conditions.[2,3] Therefore Vorner's Keratoderma has been subsumed under the umbrella of Unna-Thost.[4]

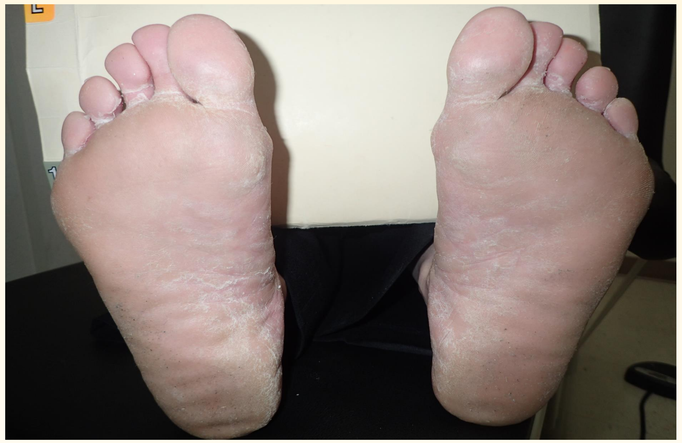
METHODS

- A 30 year old Hispanic female presented with itchy palms and soles. She gave a history of having some thickening of the palms and soles over many years, but noted worsening of symptoms over the last 2 to 3 weeks. On exam she had red, thick, keratotic and scaly plaques on the palms and soles, with some vesicles and excoriations. Her toenails were thickened, with yellow subungual debris. Presumptive diagnosis was a severe contact dermatitis versus Palmoplantar psoriasis. She was treated with clobetasol foam and urea foam. A North American Standard allergen patch test was done, showing a 2+ reaction to cocoamidopropyl betaine. Avoidance of the antigen was discussed. Nail biopsy showed numerous fungal hyphae on PAS stain.
- Clobetasol foam was discontinued. Patient was treated for tinea pedis and tinea ungum. Ciclopox lotion and aluminum chloride hexahydrate solution was started, with some improvement. After liver functions were checked, oral terbinafine 250 mg per day was given for three months, with good response. Erythema, vesiculation and itch resolved. However, the hyperkeratosis and hyperhidrosis persisted. By this time, patient had conferred with distant family, and noted that a maternal aunt and several other distant relatives also suffered from the same condition. A diagnosis of Palmoplantar Keratoderma of Unna Thost was made. Patient used combinations of urea foam, aluminum chloride hexahydrate, and ciclopox lotion with tolerable improvement and quality of life.
- After 7 years, the patient noted worsening of symptoms, with severe itch, erythema, hyperhidrosis and thick hyperkeratosis. Previous therapies were resumed with no success. A skin biopsy showed compact orthokeratin and coarse bundles of collagen in vertical array in the papillary dermis. PAS stain for fungus was negative. Nail biopsy showed a thickened nail plate, and negative PAS for nail fungus. Patient was started on clobetasol foam, aluminum chloride hexahydrate solution, and urea foam.
- After 2 weeks, urea foam was stopped due to ineffectiveness. Tazarotene foam was added.

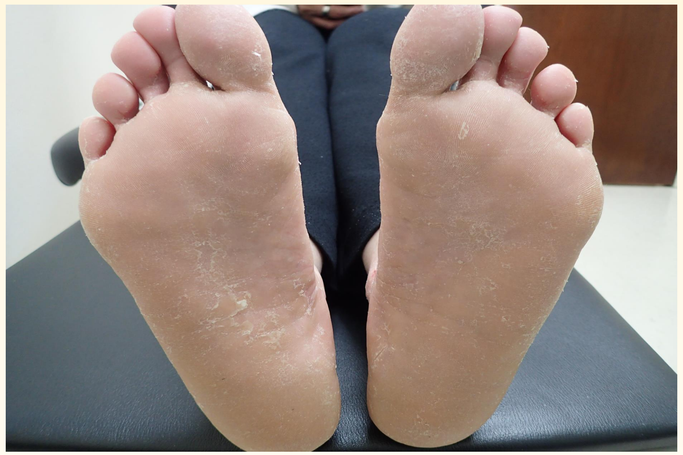
RESULTS

Patient returned in three weeks with near-resolution of all symptoms, claiming she had never been this clear at any time since the disease began. Patient had no erythema, minimal hyperhidrosis and minimal scale. The thickened keratotic plaques had dissolved. Patient has maintained remission of nearly all symptoms over the last 4 months.

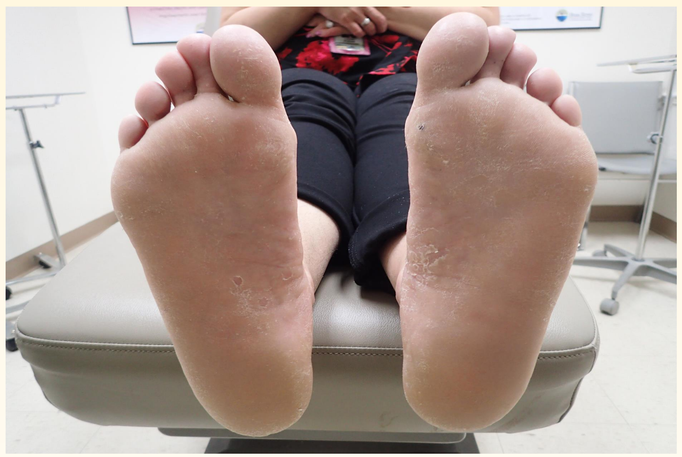
Prior to treatment with tazarotene foam, 0.1%



After 3 weeks of treatment with tazarotene foam, 0.1%



After 4 months of treatment with tazarotene foam, 0.1%



DISCUSSION

Our case illustrates the difficulties in diagnosing a disease that predisposes the patient to secondary fungal infections that can obscure the underlying diagnosis at initial presentation.[5,6] Once the fungal infection was treated and the underlying diagnosis was established, a topical retinoid was shown to be very effective.

Treatment of Keratoderma of Unna-Thost consists of addressing the hyperhidrosis and secondary infections followed by treating the disease itself. Various treatments have been tried, including topical keratolytics(such as salacylic acid, urea, lactic acid), topical retinoids(such as tretinoin, adapalene), but many cases in the literature report best results with oral retinoids(such as acitretin and isotretinoin).[5,6,7] Given the significant side-effects of oral retinoids, the patient refused them.

Tazarotene foam, with its decreased absorption into the bloodstream[8], proved to be a good choice. The degree and speed of initial improvement, and the long term maintenance of benefit were most gratifying. Tazarotene cream has been used with some success in palmoplantar psoriasis.[9] Now that tazarotene is available in a foam formulation, and, in our case has shown excellent tolerability and therapeutic value, it may be worthwhile to revisit treatment of hyperkeratotic states with tazarotene foam.

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DISCLOSURES

1. This case study and presentation were funded by a grant from Mayne Pharma.
2. Dr. Lateef is an Associate Professor of Dermatology at Florida State University College of Medicine.