

# Spiny Keratoderma

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*Spiny keratoderma is a descriptive term used to encompass a variety of unusual, disparate keratodermas. Spiny keratoderma has been associated with lipid abnormalities and has been limited to the palms and soles in some individuals. We describe an acquired case of spiny keratoderma in which an adult woman developed filiform lesions predominating on the trunk and proximal extremities. Treatment with topical emollients and keratolytic agents was unsuccessful, but topical tazarotene led to long periods of resolution. She has had no other associated abnormalities. The clinical features and differential diagnosis of spiny keratoderma are reviewed.*

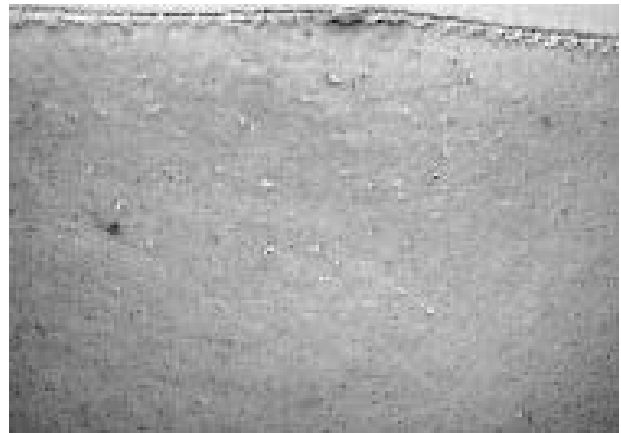
Spiny keratoderma has been used to describe a variety of entities also reported as parakeratosis palmaris et plantaris, punctate parakeratotic keratoderma, “music spine keratosis,” and, most recently, spiny keratoderma of the palms and soles. Malignant potential has not been documented.

Spiny keratodermas are classified based on characteristics of lesions, including exhibition of parakeratosis, localization to palmoplantar surfaces, diffuse involvement, or association with appendages.<sup>1</sup>

Palmar spiny keratoderma has been associated with type IV hyperlipoproteinemia<sup>2</sup> and HMG-CoA reductase inhibitor therapy and has been seen in patients involved with manual labor.<sup>3</sup> Association with autosomal dominant polycystic kidney disease has also been noted.<sup>4</sup> Treatment with keratolytic agents has been reported to be of value, and 5-fluorouracil was used in one case.<sup>5</sup> Spiny keratoderma has also been reported as a paraneoplastic phenomenon.

## Case Report

A 67-year-old woman with a history of actinic keratoses, solar lentigines, and xerosis presented with



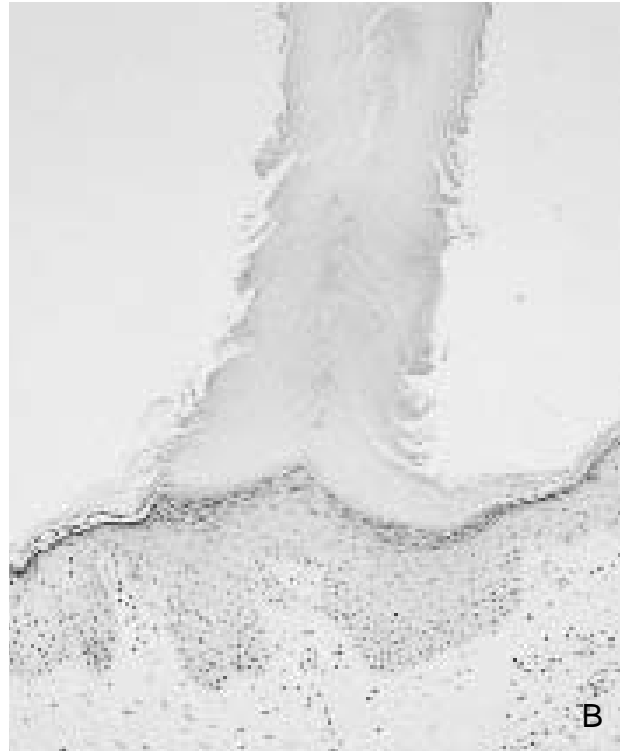
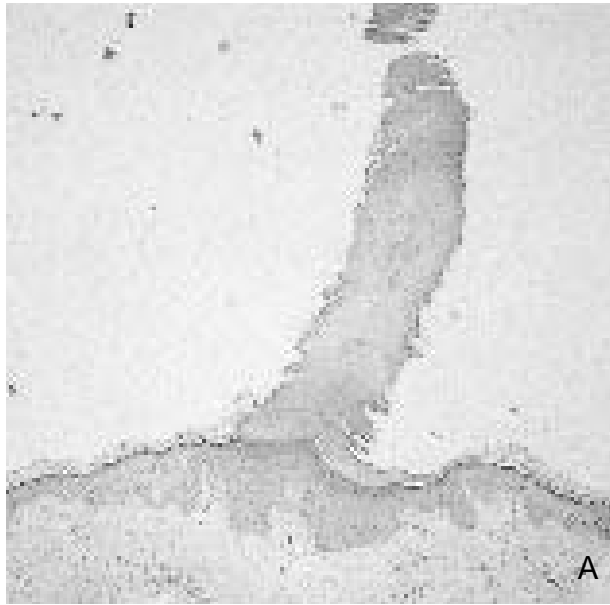
**FIGURE 1.** Spiny keratoderma lesions on the back.

the new onset of keratotic lesions on the trunk and back (Figure 1). These lesions had developed over several months and were not accompanied by any symptoms of pruritus. They were disturbing to the patient because of the textural change in the skin; the rough, coarse nature of the filiform projections; and her awareness of her skin's unusual appearance. A biopsy revealed compact orthokeratosis without epidermal atypia, acantholytic dyskeratosis, or cornoid lamella formation (Figure 2, A and B). No pyknotic nuclei were noted, and parakeratosis was absent. A variety of topical treatments, including lanolin- and petrolatum-containing moisturizers, topical ammonium lactate, tretinoin cream, and glycolic acid peels applied in the office at a concentration of 50% glycolic acid for 6 minutes, were tried on the lesions over the following months. Although the glycolic acid caused an irritant dermatitis, no clear clinical improvement by any of the treatments was noted.

However, treatment with topical tazarotene gel 0.1% applied once daily for 1 week caused a brisk irritant dermatitis but led to marked improvement in the keratotic lesions. A complete skin examination did not reveal stigmata of paraneoplastic phenomena, such as acanthosis nigricans, hypertrichosis, or acquired ichthyosis. The patient had mild xerosis typical for her peer group and for the climatic conditions in Buffalo, New York, at that time of the year. Laboratory studies

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**FIGURE 2.** (A) Biopsy reveals a characteristic spine consisting of compact keratin (original magnification x8). (B) Epidermis lacks atypia or evidence of dyskeratosis (original magnification x80).

and a thorough evaluation by her internist failed to reveal any other associated abnormalities.

### Discussion

Spiny keratoderma is an unusual disorder that most frequently involves the hands and feet. Our patient is unique because her filiform hyperkeratotic lesions were on the trunk and proximal extremities. Simple rubbing or scratching did not lead to improvement. The filiform projections of spiny keratoderma are resilient to scratching or simple curettage. No atypia is evident on biopsy and the cause of the lesions is unclear. In some instances, hyperlipidemia has been associated with spiny keratoderma, but this was not the case in our patient. Treatments reported to be effective for spiny keratoderma include emollients, keratolytic agents, and 5-fluorouracil. Tazarotene gel was helpful for our patient. Oral retinoid therapy was also being considered as a possible treatment option. The patient has been satisfied with the results of the topical tazarotene gel

used intermittently, and we believe that this is a simple and safe approach that should continue to be useful in controlling her novel dermatosis.

### REFERENCES

1. McGovern TW, Gentry RH. Spiny keratoderma: case report, classification, and treatment of music box spine dermatoses. *Cutis*. 1994;54:389-394.
2. Zarour H, Grob JJ, Andrac L, et al. Palmoplantar orthokeratotic filiform hyperkeratosis in a patient with associated Darier's disease: classification of filiform hyperkeratosis. *Dermatology*. 1992;185:205-209.
3. Horton SL, Hashimoto K, Toi Y, et al. Spiny keratoderma: a common under-reported dermatosis [review]. *J Dermatol*. 1998;25:353-361.
4. Anderson D, Cohen DE, Lee HS, et al. Spiny keratoderma in association with autosomal dominant polycystic kidney disease with liver cysts. *J Am Acad Dermatol*. 1996;34:935-936.
5. Osman Y, Daly TJ, Don PC. Spiny keratoderma of the palms and soles. *J Am Acad Dermatol*. 1992;26:879-881.