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Case Report
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Acquired Spiny Keratoderma in an Older Adult: Implications for Malignancy Surveillance and Longitudinal, Cost-Conscious Care

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Abstract

We present a case of a 72-year-old man with a 30-year history of palmar spiny keratoderma and prior unprovoked deep vein thrombosis. Lesions demonstrated partial improvement with topical keratolytics and retinoids, though treatment adherence was limited by medication cost, necessitating reliance on mechanical exfoliation and over-the-counter alternatives.

Spiny keratoderma is a rare skin disorder featuring small keratotic projections from the palms and may also affect the soles. While often perceived as a benign dermatologic condition, the acquired form has been reported in association with internal malignancy, particularly in older adults. Despite these associations, no formal guidelines exist for cancer surveillance or long-term management.

Acquired spiny keratoderma in older adults may represent a cutaneous marker of systemic disease and should prompt consideration of systemic evaluation. Given the patient's history of acquired keratoderma and prior unprovoked venous thromboembolism, both of which have been associated with underlying malignancy, he represents a patient at elevated risk who warrants continued clinical monitoring. Continued age-appropriate malignancy surveillance and attention to socioeconomic barriers are essential components of patient-centered care.

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Introduction

Spiny keratoderma, also referred to as music box spine keratosis or palmoplantar filiform hyperkeratosis, is a rare disorder of keratinization characterized by numerous punctate, spine-like keratotic projections arising from the stratum corneum of the palms and digits [1]. The condition produces a distinctive rough, sandpaper-like texture and is often underrecognized due to its rarity.

Spiny keratoderma exists in both hereditary and acquired forms. Hereditary variants typically present earlier in life and may be associated with genetic syndromes or keratinization disorders [5, 9]. In contrast, acquired spiny keratoderma predominates in older adults and has been increasingly reported in association with systemic disease, particularly internal malignancy [2-4].

Case series and literature reviews suggest that approximately 28–29% of reported acquired cases are associated with malignancy, including hematologic cancers such as multiple myeloma and lymphoma, as well as solid tumors of the lung, breast, and gastrointestinal tract [2-4, 6]. Despite these findings, acquired spiny keratoderma is frequently managed as a benign dermatologic condition, and no formal recommendations exist regarding malignancy screening or longitudinal surveillance [3]. This case highlights the importance of recognizing spiny keratoderma as a potential paraneoplastic marker and illustrates the challenges of long-term management in older adults.

Case Presentation

A 72-year-old man presented for evaluation of longstanding pruritic lesions on the palms. His medical history was notable for left lower-extremity deep vein thrombosis (DVT) and cerebrovascular accident.

The patient reported a 30-year history of recurrent punctate keratotic lesions affecting the

Figure 1: Non-hereditary spiny keratoderma of the palms. Clinical photograph demonstrating innumerable punctate, spine-like keratotic papules distributed across the palmar digits and interdigital spaces with palmar erythema.

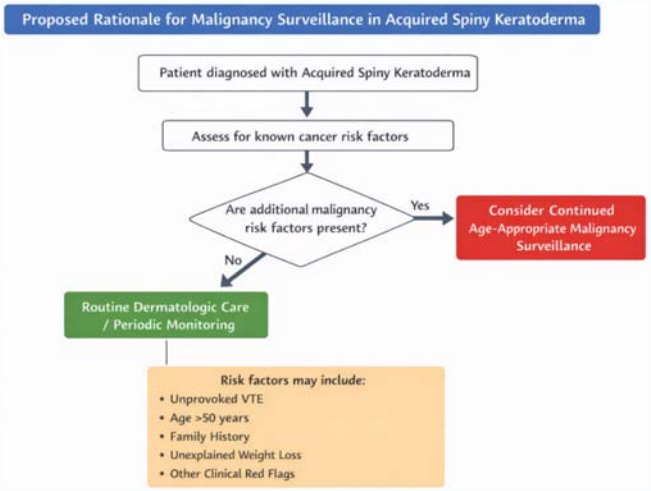

Figure 2: Proposed framework for malignancy surveillance in acquired spiny keratoderma. Patients with acquired spiny keratoderma should be assessed for additional malignancy risk factors. In the presence of such factors, continued age-appropriate malignancy surveillance may be considered; otherwise, routine dermatologic care with periodic monitoring may be appropriate.

palmar surfaces of both hands, with intermittent flares. He previously lived and worked in Japan and Switzerland, where he was evaluated by dermatologists and treated with topical therapies. Past treatments also included cryotherapy and mechanical shaving of lesions, which he discontinued on the advice of his primary care physician.

Physical examination revealed innumerable pruritic, punctate, filiform keratotic papules distributed across the palmar surfaces and interdigital spaces bilaterally, consistent with acquired spiny keratoderma. No cyanosis, clubbing, or edema was present; however, palmar erythema was present on exam.

Initial management consisted of topical triamcinolone cream applied twice daily for 14 days and mechanical exfoliation with a pumice stone. While moderate improvement was observed, recurrence prompted dermatology referral. Given the keratotic morphology, therapy was transitioned to topical salicylic acid (6%) and tazarotene gel applied four times weekly, in addition to continued mechanical exfoliation. This resulted in decreased pruritus and lesion density, particularly along the palmar margins and interdigital spaces.

However, medication cost significantly limited adherence, and the patient discontinued prescription therapies. Subsequent management emphasized over-the-counter salicylic acid, prescription tretinoin, and mechanical exfoliation, which allowed for partial symptom control.

Discussion

Acquired spiny keratoderma is increasingly recognized as more than a benign dermatologic finding. Across published case series and reviews, approximately 28–29% of reported cases have been associated with internal malignancy [2-4]. Although the precise mechanism remains unclear, proposed hypotheses include circulating tumor-derived factors influencing keratinocyte differentiation or epidermal proliferation [3].

Importantly, malignancy may be diagnosed years after the onset of spiny keratoderma, underscoring the limitation of one-time evaluations [2, 3]. In this case, the patient's history of an unprovoked DVT further heightens concern. Large population-based studies have demonstrated an elevated risk of underlying cancer following venous thromboembolism, particularly within the first year of diagnosis, with risk increasing linearly with age [7]. Although unprovoked venous thromboembolism can occur in isolation, likelihood of coexistence with paraneoplastic processes warrants increased vigilance and surveillance for occult malignancy.

This case also highlights the important clinical distinction between acquired and hereditary keratodermas. While most hereditary palmoplantar keratodermas are genetic disorders presenting earlier in life, and are not broadly associated with internal malignancy, acquired keratodermas, particularly those arising later in adulthood, may function as cutaneous markers of systemic disease [3]. This distinction underscores the need for clearer surveillance guidelines for adult-onset keratoderma, balancing appropriate malignancy screening with avoidance of unnecessary testing.

Additionally, this case presents an interesting review of the complexities of caring for an international patient. Several challenges including limited access to prior medical records, and differences in health system infrastructure complicated both diagnostic evaluation and longitudinal monitoring. Continuity of care was further challenged by incomplete knowledge of the patient's prior pharmacologic treatments, as the patient was unable to recall the names, dosages, or duration of previously prescribed medications, limiting the ability to verify prior therapies and assess treatment response. As we continue to move towards an era of growing global motility, improved global interoperability of medical records and greater awareness among clinicians regarding international pharmacologic variations may optimize continuity of care for patients navigating cross-border health systems.

Chronic keratinization disorders often require prolonged topical therapy. Long-term management typically relies on keratolytic agents, topical retinoids, and mechanical exfoliation [1, 3]. Costly medications pose a significant barrier for patients with financial constraints, including older adults on fixed incomes. Incorporating over-the-counter alternatives and emphasizing mechanical exfoliation can provide symptom relief while reducing financial burden [8]. Therefore, consideration of financial accessibility is not peripheral but integral to effective long-term management.

Conclusion

Acquired spiny keratoderma in older adults should prompt clinicians to consider the possibility of underlying systemic disease. Given documented paraneoplastic associations and the potential for delayed malignancy diagnosis, continued age-appropriate malignancy surveillance is reasonable, particularly in patients with additional risk factors such as unprovoked venous thromboembolism. Addressing financial barriers and integrating cost-conscious therapeutic strategies is essential for optimizing long-term outcomes and delivering patient-centered care.

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