A solitary asymptomatic patch on the palm
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Case
A woman in her mid 60s presented for an asymptomatic pink depressed patch on her left thenar eminence. It had been present for 10 years and gradually enlarged. She denied a history of trauma or other local exposure that could have contributed to the formation of the lesion. Her medical history included arthritis, hypertension, hyperlipidemia, and mallet finger of the right hand. She denied any history of skin cancer.

Physical examination was notable for a 3 × 2-cm well-demarcated mildly erythematous patch on her left thenar eminence with a raised scaly border (Fig. 1). A biopsy specimen of the peripheral border was obtained for histopathologic analysis (Fig. 2).

Question 1
What is your diagnosis?
A. Circumscribed palmar hypokeratosis
B. Keratolysis exfoliativa
C. Palmar porokeratosis
D. Plaque psoriasis
E. Squamous cell carcinoma in situ

Correct answer: A. Circumscribed palmar hypokeratosis. The history, examination, and histopathology are consistent with circumscribed palmar hypokeratosis.

Discussion
Circumscribed palmar hypokeratosis (CPH) is a rare benign dermatosis of uncertain etiology. Clinically, CPH is very distinctive, typically presenting as a solitary circumscribed erythematous area of depressed skin on the palms or soles. There is predilection for the thenar or hypothenar region of the palm and the medial side of the foot. Classically, CPH occurs in older females (mean age 61.5 years old), there is no elicited history of trauma and it has been nonresponsive at attempts to treat. Most often CPH presents on the palm as a solitary lesion; however, there are several reports of a plantar location as well as multiple co-existing CPH lesions.
Question 2

What are you most likely to see on pathology?

A. Acanthotic epidermis with full thickness atypia
B. Cornoid lamellae
C. Sharply circumscribed defect in stratum corneum
D. Cleavage and partially degraded corneodesmosomes within the stratum corneum
E. Parakeratosis with epidermal hyperplasia with uniform elongation of rete ridges and absence of granular layer

Correct answer: C. Sharply circumscribed defect in stratum corneum. Examination of a tangential biopsy specimen revealed a sharply circumscribed defect in the stratum corneum, a step off between normal and involved skin (Fig. 2). Very minimal parakeratosis was noted. Otherwise, the epidermis and dermis were unremarkable. Initial and multiple deeper sections were examined and failed to demonstrate cornoid lamellation. Periodic acid-Schiff (PAS) special stain was negative for fungal organisms. Based on these findings, a diagnosis of circumscribed palmar hypokeratosis was made.

CPH is most often biopsied to rule out squamous cell carcinoma in situ (SCCIS), since SCCIS can present as a thin erythematous scaly plaque on sun-exposed skin. Clinically, CPH appears thinned compared to adjacent normal skin distinguishing from SCCIS; however, these differences can be subtle and made even harder to discern if the patient has previously treated the lesion. The biopsy specimen from this patient did not reveal any atypical keratinocytes. Biopsy of a palmar porokeratosis would show a cornoid lamella, an angled column of parakeratosis with underlying hypogranulosis and dyskeratotic cells, which was not demonstrated in our patient on initial or multiple deeper sections. Cornoid lamellae also stain positive for PAS, which was not exhibited in our case. Keratolysis exfoliativa, also of unknown cause, presents as multifocal peeling patches of the palms and less often the soles in which the exfoliation spreads centrifugally. Clinically, there is an annular colliette of scale around the exfoliation and no erythema. Similar to CPH, keratolysis exfoliativa does not typically improve with topical steroids. Plaque psoriasis would show confluent parakeratosis, regular acanthosis, thinning of suprapapillary plates, decreased or absent stratum granulosum, dilated capillaries in the dermal papilla and typically responds well to topical corticosteroids.

It is likely that CPH is an underrecognized clinical entity making the incidence underestimated. There are less than 100 reported cases in the literature. CPH should be in the differential for both solitary and multiple annular palmpoplantar lesions and should be diagnosed based on clinical characteristics in addition to histologic confirmation to rule out SCCIS, porokeratosis, or arsenic keratosis. No consistently effective treatment has been reported. Attempted treatments include topical corticosteroids, vitamin D analogs, keratolytics, cryotherapy, and excision with excision being the most reliable.

Conflicts of interest
None.

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N/A

References
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