Degenerative collagenous plaques of the hands in an elderly woman

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Abstract

Degenerative collagenous plaques of the hands is an underrecognized acquired dermatosis characterized by slowly progressive linear depressed bands appearing symmetrically at the margins of palmar and dorsal skin of the hands. It is more common in the elderly and is believed to result from chronic pressure and ultraviolet radiation. We present an elderly woman with degenerative collagenous plaques of the hands to highlight an underrecognized rare dermatosis.

Keywords: collagenous, degenerative, hands, keratoelastoidosis marginalis, plaques

Introduction

Degenerative collagenous plaques of the hands (DCPH, also called keratoelastoidosis marginalis and collagenous and elastotic marginal plaques of the hands) appears gradually as symmetric, linear depressions located at the borders of palmar and dorsal hand skin (radial or ulnar are both possible). Lesions may appear glistening or waxy with erythema, scale, telangiectasia, or subtle yellowish discoloration. The condition is believed to result from chronic pressure and ultraviolet radiation leading to thickened collagen and elastic fibers, ischemic changes, hyperkeratosis with epidermal atrophy, and dermal papillary telangiectasia. It is more common in the elderly and advanced involvement of flexor creases can result in stiffness or discomfort during manual tasks. Histologically the condition is characterized by elastosis, dense collagen bundles in upper half of the dermis, and amorphous basophilic material in the reticular dermis [1,2,3].

Case Synopsis

A 61-year-old woman presented to the dermatology clinic complaining of firm cracked skin of her thenar web spaces and lateral index fingers bilaterally, which had been slowly worsening for several years. She endorsed frequent hand washing and some mild resistance when bending the affected fingers. She denied manual labor and similar lesions elsewhere on her body. Physical examination showed glistening pale and erythematous depressed linear

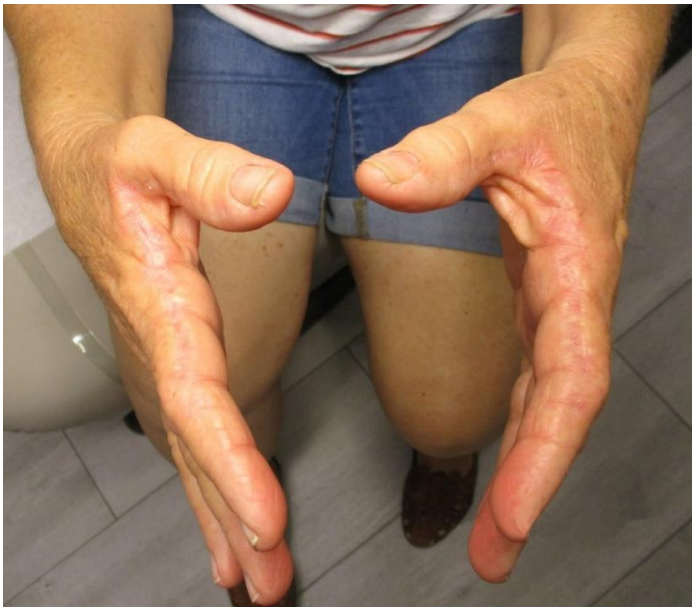

Figure 1. *Glistening pale and erythematous depressed linear bands symmetrically distributed on the margins of palmar and dorsal skin.*

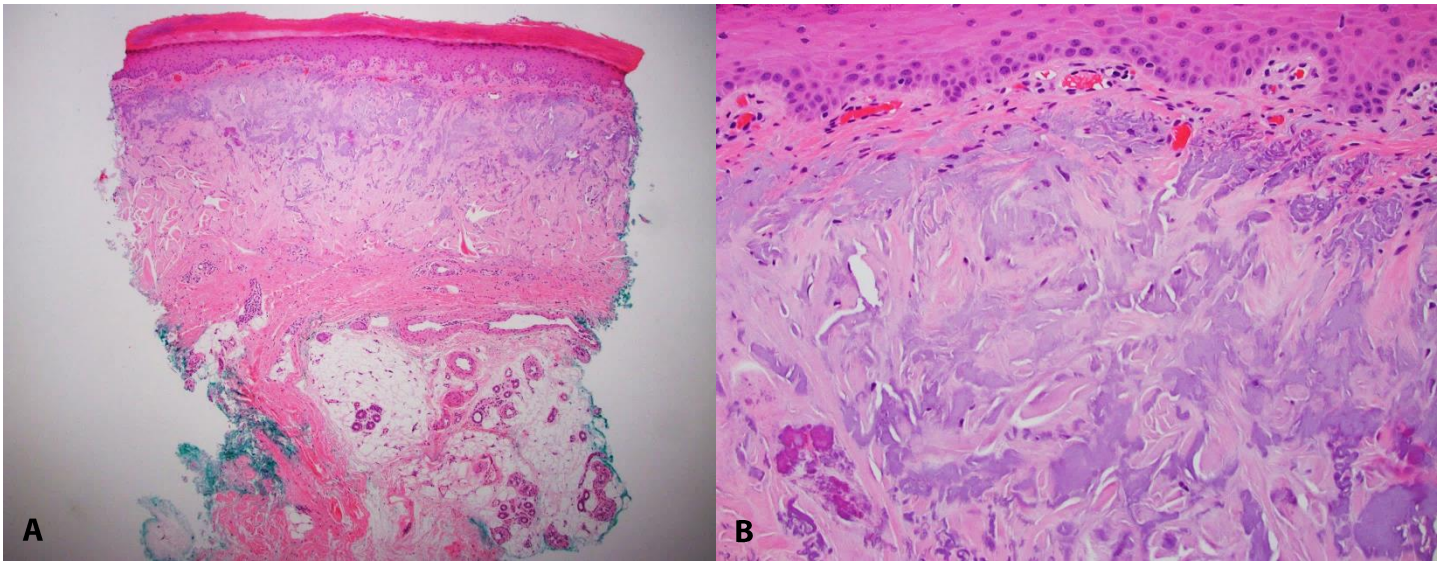

Figure 2. *H&E histopathology showed prominent elastosis with degeneration of dermal collagen fibers, and elastotic fibers within the superficial-to-mid dermis, 4× and 20×.*

bands symmetrically distributed on the margins of palmar and dorsal skin (**Figure 1**). Punch biopsy from the left thenar webspace showed prominent elastosis with degeneration of dermal collagen fibers and elastotic fibers within the superficial-to-mid dermis (**Figure 2**). Based on clinicopathologic correlation, the patient was diagnosed with DCPH. Our patient was treated with twice daily emollient application and avoidance of manual labor. She reported mild improvement of her symptoms with these measures after five months of follow-up.

Case Discussion

The differential diagnosis of DCPH includes acral lichen sclerosus [3], acrokeratoelastoidosis [4-6], focal acral hyperkeratosis [6], hyperkeratotic palmoplantar psoriasis [7], hyperkeratotic palmoplantar lichen planus [8], callosities [9,10], and arsenic keratoses [F], (Table 1). Although its clinical appearance and history can be fairly distinct from these entities, acral lichen sclerosus has been reported to mimic DCPH [3], thus biopsy and clinicopathologic correlation may be necessary to ensure a correct diagnosis that will not progress if left untreated.

The condition is benign and often asymptomatic, thus treatment depends on the patient's comfort. Laser therapy, ultrapotent topical corticosteroids, topical and oral retinoids, cryotherapy, and topical α-hydroxy acid creams have been tried with little to no success. Regular emollient application and avoidance of manual labor and sun exposure are recommended and may reduce fissuring [2].

Conclusion

We present this case of DCPH to highlight an underrecognized rare dermatosis. Although DCPH is benign, its differential diagnosis can be extensive; this may necessitate biopsy and clinicopathologic correlation to ensure a more debilitating condition is not missed.

Potential conflicts of interest

The authors declare no conflicts of interest.

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Table 1. *Differential diagnosis of dorsal collagenous plaques of the hands.*

Condition	Epidemiology	Presentation	Pathology	Treatment	Ref
Acral LS	6–10 times more prevalent in women than men; onset usually in childhood or 4th to 5th decade	Ivory-white sclerotic atrophic plaques on palms or soles; nail dystrophy; may involve genitals or other extragenital sites	Compact orthokeratosis, follicular plugging, epidermal thinning, vacuolization of basal layer, band-like lymphocytic vacuolar interface dermatitis; edematous homogenization of collagen & loss of elastic fibers in papillary dermis	High-potency topical corticosteroids	[2,4]
AKE	Onset in childhood or adolescence; may have autosomal dominant inheritance	Small yellowish keratotic papules on margins of palms, soles, & digits; papules may be umbilicated; may extend to dorsal hands & feet	Orthohyperkeratosis; Verhoeff-van Gieson stain shows fragmentation & degeneration of elastic fibers in dermis (elastorrhexis)	No effective treatment	[4,5,6]
Arsenic keratoses	Arsenic contamination of groundwater is the most common cause; endemic in Bangladesh & West Bengal, India	Insidious onset over years or decades, of hyperpigmentation on trunk followed by violaceous keratotic papules (≤2mm) on soles & palms; elevated serum arsenic	Compact hyperkeratoses with thickened stratum granulosum; mild papillomatosis; perivascular inflammation; lack of solar elastosis; keratinocyte atypia ranging from mild to SCCIS	Removing dietary arsenic, acitretin, close follow-up monitoring (increased risk for developing cutaneous & internal malignancies)	[11]
Callosities	Due to bony protuberances, manual labor, abnormal foot biomechanics, poorly fitting shoes, athletics; can be associated with pachyonychia congenita	Hyperkeratotic, yellow, keratinized plaques of palms or soles	Compact orthokeratosis	Paring hyperkeratotic areas, emollients, keratolyics such as urea or salicylic acid	[9,10]
DCPH	More common in elderly; results from chronic pressure & UV radiation	Slowly progressive linear depressed bands at margins of palmar & dorsal skin of hands; glistening or waxy with erythema, scale, & telangiectasia	Elastosis, dense collagen bundles in upper dermis, & amorphous basophilic material in reticular dermis	Topical emollients; avoidance of manual labor & sun exposure	[1,2,3]
Focal acral hyperkeratosis	Onset prior to age 20, no racial or sexual predilection	Yellow-white, translucent, polygonal papules clustered on wrists, thenar palms, & dorsa & sides of fingers; hyperkeratosis of palms (pronounced in palmar creases)	Orthohyperkeratosis within focal clavus-like depressions of epidermis & prominent hypergranulosis; identical to AKE; distinguished from AKE solely by absent elastorrhexis	No effective treatment	[6]

Hyperkeratotic palmoplantar LP	More common in men between 3rd to 5th decade; has been reported in children	Erythematous scaly plaques, yellowish hyperkeratotic papules, diffuse keratoderma, ulcerated lesions, vesicular or petechia-like eruptions, or well-defined hyperkeratotic erythematous plaques	Irregular acanthosis, band-like lymphohistiocytic infiltrate at DEJ, & necrotic keratinocytes (Civatte bodies)	Topical & intralesional steroids, tacrolimus, & tazarotene; for resistant cases: acitretin, cyclosporine, or enoxaparin	[8]
Hyperkeratotic PPP	Epidemiology is poorly defined; prevalence of chronic plaque psoriasis ranges 1-3%, PPP accounts for 3-4% of all psoriasis	Well-demarcated erythematous scaly plaques on palms or soles; pustules; nail dystrophy; fissured hyperkeratotic plaques on palms & soles	Overgrowth & dilation of superficial blood vessels, epidermal hyperplasia, elongated rete pegs, acanthosis	Topical steroids, vitamin D analogs, calcineurin inhibitors, phototherapy, or acitretin	[7]

AKE, acrokeratoelastoidosis; DCPH, dorsal collagenous plaques of the hands; DEJ, dermal-epidermal junction; LP, lichen planus; LS, lichen sclerosus; PPP, palmoplantar psoriasis; Ref, reference; SCCIS, squamous cell carcinoma in situ; UV, ultraviolet.