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Granuloma annulare on the palms

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Abstract

We present the case of a 72-year-old man with a one-week history of a red rash on the palms of both hands. A 4mm punch biopsy revealed interstitial granulomatous inflammation within the dermis and a colloidal iron stain showed increased dermal acid mucin. Immunohistochemical staining for CD68 confirmed the presence of abundant histiocytes within the dermis. The clinical and pathological correlation was consistent with the diagnosis of interstitial granuloma annulare. Exclusive involvement of the palms is a rare presentation and serves as a reminder for practitioners to keep granuloma annulare in their differential diagnosis when observing palmar plaques.

Keywords: *granuloma annulare, hand, palm*

Introduction

Granuloma annulare (GA) is a benign inflammatory disorder of the dermis/subcutis that typically presents as asymptomatic, erythematous, annular papules or plaques affecting the extremities and trunk. There are several variants of GA including localized, generalized, subcutaneous, and perforating. The localized form makes up over 75% of cases and presents as plaques most commonly on the dorsal hands and feet. The generalized form is composed of numerous lesions affecting the trunk and extremities. The subcutaneous form occurs as nodules on the lower extremities predominantly in children. The perforated form presents as

umbilicated papules. However, none of these variants are known to present with palmar and plantar involvement. Granuloma annulare is seen more commonly in women compared to men [1,2].

Case Synopsis

A 72-year-old man presented with red plaques on the palmar surface of his hands. Other than feeling “swollen” the lesions were asymptomatic. He denied any itching, bleeding, pain, systemic symptoms, or recent illness (**Figure 1**).

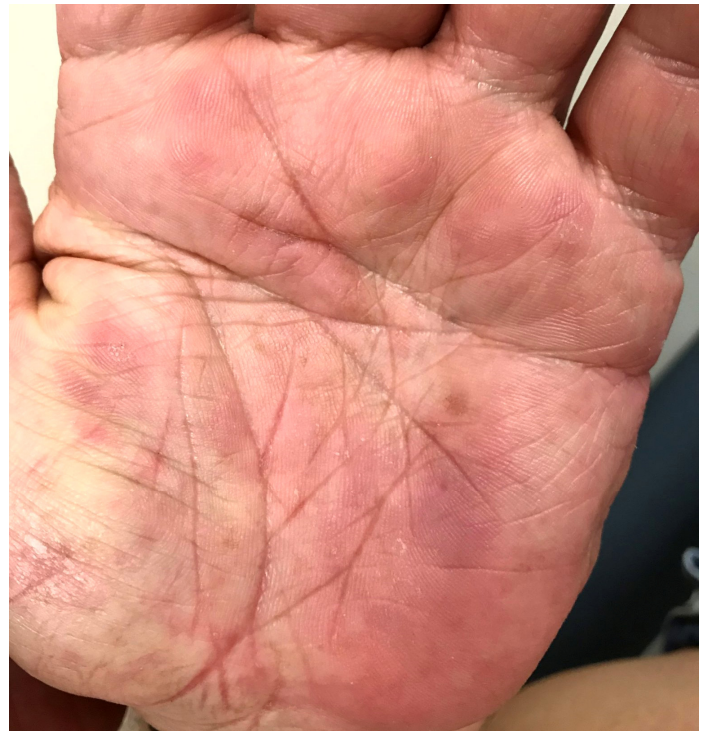


Figure 1. Hand with erythematous plaques showing site of 4mm punch biopsy

Physical examination showed erythematous plaques on the palmar surface of both hands. A 4mm punch biopsy was taken from the right palm revealing interstitial granulomatous inflammation within the dermis and a colloidal iron stain showed increased dermal acid mucin (**Figure 2**). There were no eosinophils or spirochetes seen. Immunohistochemical staining for CD-68 confirmed the presence of abundant histiocytes within the dermis. Acid cytokeratin (CAM 5.2) was negative suggesting palmar GA over epithelioid sarcoma. The clinical and pathological correlation were consistent with the diagnosis of interstitial granuloma annulare. He was treated successfully with topical triamcinolone.

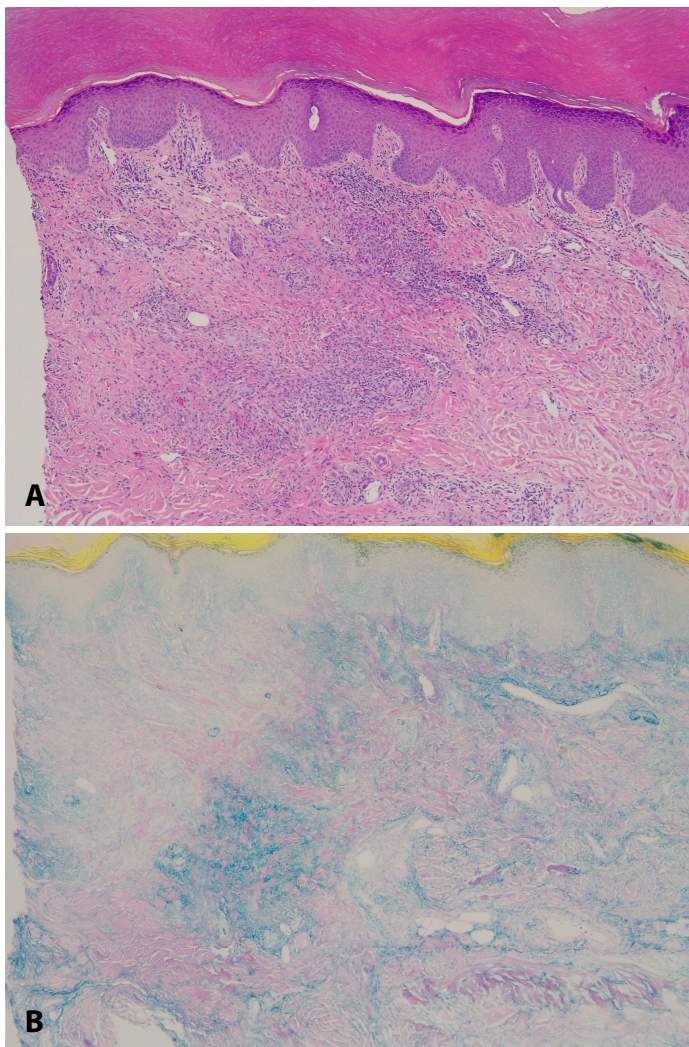


Figure 2. A) H&E stain showing palisading granuloma consistent with granuloma annulare, 100 \times . **B)** Colloidal iron stain showing increased mucin consistent with granuloma annulare, 100 \times .

Case Discussion

Granuloma annulare is a benign inflammatory dermatosis presenting on the trunk, extremities, and dorsal hands or feet, while typically sparing palmar and plantar surfaces. The etiology of granuloma annulare is poorly understood; various theories support a delayed-type hypersensitivity reaction, a cell mediated immune response, or a Th1 mediated cytokine breakdown of connective tissue that results in granulomatous inflammation [2,3]. There appears to be an association between GA and hyperlipidemia. However, the association with other diseases such as diabetes, thyroid disorders, infections, and hematologic malignancy is not as strong [2,4].

The diagnosis of palmar GA can be difficult owing to its atypical presentation. In a clinicopathological study of seven patients with biopsy proven granuloma annulare exclusively on the palms, the diagnosis was not suspected clinically in five cases [5]. The most common location of GA in the study was the fingertips, followed by thenar/ hypothenar eminences, and the lateral sides of fingers. They also noted that palm lesions were asymmetrical in 5/7 cases.

The clinical differential diagnosis for lesions on the palmar surface of the hands may include tinea manuum, contact dermatitis, an acral variant of Sweet syndrome, drug reaction, serum sickness, id reaction, erythema multiforme, viral exanthem, angioedema, necrobiosis lipoidica, and syphilis. A KOH prep can be used to rule out fungal causes, and a skin biopsy may be used to reach a definitive diagnosis. Histologically, palmar GA can present as an interstitial or palisading pattern. Foreign body reactions may also appear granulomatous and can be differentiated with polarization. Necrobiosis lipoidica also forms granulomas but can be differentiated from GA by its distinct layers of granuloma and collagen formation. The histological differential would also include palisading granulomatous dermatitis associated with connective tissue disorders and interstitial granulomatous dermatitis associated with arthritis. A well-known histological mimic of granulomatous

diseases is epithelioid sarcoma, which commonly presents as a solitary lesion on the distal extremity and should be ruled out before rendering a diagnosis of palmar GA. The lack of increased mitotic activity and negative epithelial markers can be used to rule out epithelioid sarcoma. This is an important distinction considering the metastatic potential of epithelioid sarcoma [6,7].

Granuloma annulare typically resolves spontaneously within two years. If the patient prefers treatment, topical or intralesional corticosteroids are considered first-line [1-3].

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Conclusion

Palmar GA is a rare presentation of granuloma annulare that requires biopsy to diagnose. Exclusive involvement of the palms is an extremely rare presentation and serves as a reminder for practitioners to keep GA in their differential diagnosis when approaching palmar lesions.

Potential conflicts of interest

The authors declare no conflicts of interest.