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Autoimmunity-Related Granulomatous Dermatitis in Association with Hepatitis

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Key Words

Granulomatous dermatitis · Autoimmunity · Hepatitis

Abstract

Aim: Both interstitial granulomatous dermatitis (IGD) and palisaded neutrophilic granulomatous dermatitis (PNGD) are rare disorders typically associated with systemic autoimmune conditions. They probably represent different aspects of a disease spectrum encompassing the concept of autoimmunity-related granulomatous dermatitis (ARGD).

Case Report: A 61-year-old woman presented with ARGD and autoimmune hepatitis. The clinical presentation suggested PNGD, while histopathology was consistent with IGD.

Discussion: The association of ARGD with autoimmune hepatitis is apparently a rare event. The present case shows that the clinicopathological correlation in ARGD does not always clearly fit with the classical presentations of IGD or PNGD.

Introduction

A number of autoimmune conditions are associated with cutaneous symptoms. Interstitial granulomatous dermatitis (IGD) is one of these skin disorders [1–3]. The typical clinical presentation corresponds to a linear rope present on the trunk and axillae. On histopathological examination, IGD is characterized by a sparse palisaded histiocytic infiltrate with little neutrophilic debris and eosinophils associated with a necrobiotic aspect of the collagen matrix [4].

In the literature, there is some overlap between IGD and palisaded neutrophilic granulomatous dermatitis (PNGD). Lesions of PNGD typically correspond to papules occasionally admixed with small crusts on the elbows. A dense neutrophilic and

interstitial histiocytic infiltrate is sometimes associated with vasculitis. Other related disorders include rheumatoid papules, Churg-Strauss granuloma, superficial ulcerating rheumatoid necrobiosis, necrobiotic granuloma, palisading granuloma, cutaneous extravascular necrotizing granuloma, and rheumatoid neutrophilic dermatitis [5].

Here, we report a patient who presented with granulomatous dermatitis in combination with autoimmune hepatitis. Such an association has apparently been reported only once before [6].

Case Report

A 61-year-old woman presented with skin lesions over the elbows and the left thenar region. They corresponded to erythematous and discrete hyperkeratotic papules which had been present for a few weeks (fig. 1a, b). There was no pruritus.

A skin biopsy was performed. Despite the clinical aspect, the histopathological presentation was consistent with IGD. The dermis contained a moderate superficial perivascular cell infiltrate exhibiting some interstitial extension. A few multinuclear giant cells were recognized. Discrete deposits of acid polysaccharides were identified by colloidal iron stain. Immunohistochemistry revealed the presence of CD3+ T lymphocytes predominating in the perivascular area (fig. 2a). They were associated with CD68+ and MAC387+ histiocytes as well as factor XIIIa+ dermal dendrocytes (DD1). The patterns of histiocyte distribution were quite distinct regarding cell differentiation. The MAC387+ cells were rather clustered in the vicinity of vessels (fig. 2b), where they were intermingled with lymphocytes. By contrast, CD68+ cells were interspersed between collagen bundles (fig. 2c). The pattern of DD1 distribution was similar to that of CD68+ histiocytes (fig. 2d).

The past medical history of the patient revealed an uneventful cholecystectomy. She presently suffered from allergic asthma. A discretely developing autoimmune hepatitis had been diagnosed 9 years ago. It was characterized by the elevation of anti-smooth muscle antibodies (1:160) and antinuclear antibodies (1:1,280). There were no detectable antibodies directed against nuclear antigens, keyhole limpet hemocyanin and mitochondria. Hepatitis B and C serologies were negative.

At the time of presentation, the patient's liver tests were in the normal range. She had never received any treatment to control the autoimmune hepatitis. She received a topical corticosteroid treatment that temporarily improved the skin lesions. However, they recurred a few months later, and some other lesions appeared on the thighs.

Discussion

In some cases, there is a mismatch between the clinical presentation and the histopathological patterns of IGD and PNGD [7]. Indeed, these two conditions possibly represent a continuum or progression of a single disease process corresponding to autoimmunity-related granulomatous dermatitis (ARGD) [6, 8]. The clinical associations between ARGD, autoimmune disease and lymphoproliferative disorders have been intermixed between both IGD and PNGD diagnoses in the literature [6, 9–14]. The underlying disorder is sometimes not diagnosed at the time of the skin manifestations [15]. IGD and PNGD are probably related disorders in the spectrum of ARGD. It is acknowledged that the inflammatory cell infiltrate is sparse to moderate in IGD, while PNGD has a dense neutrophilic and interstitial histiocytic infiltrate [5]. Some unusual variants have been reported [16].

To the best of our knowledge, only a single case of IGD with autoimmune hepatitis [17] association has been reported so far [6]. Some other autoimmune comorbidities

including arthritis, antiphospholipid syndrome [18, 19] and hematologic malignancy [20] have been reported in association with IGD. In addition, interstitial granulomatous drug reactions have been linked to TNF inhibitors, ACE inhibitors, diuretics [21–28] and soy products in food [29]. This eventuality was ruled out in our patient.

Disclosure Statement

The authors have no conflicts of interest to declare.

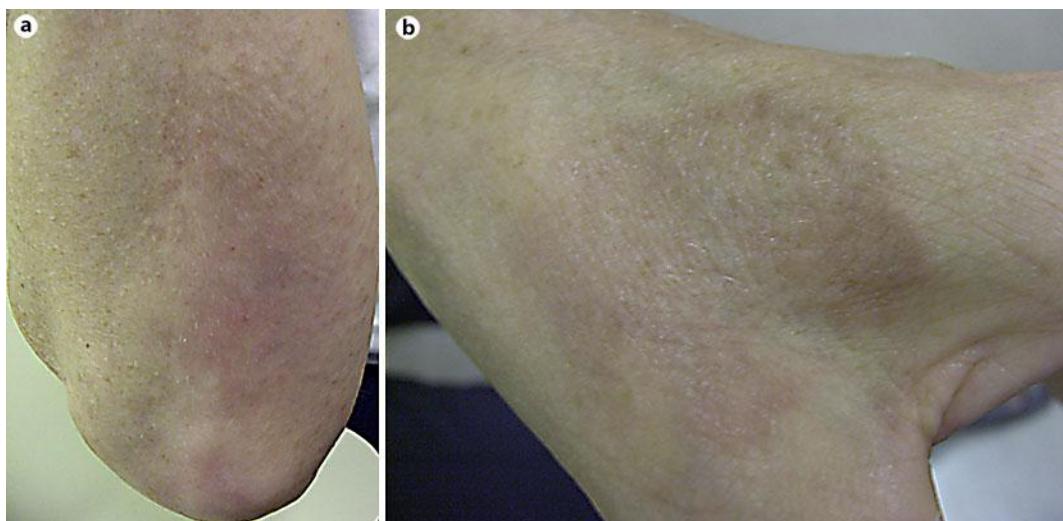


Fig. 1. Clinical presentation of ARGD. **a** Multiple papules in a plaque on the elbow. **b** Multiple papules grouped on the thenar region.

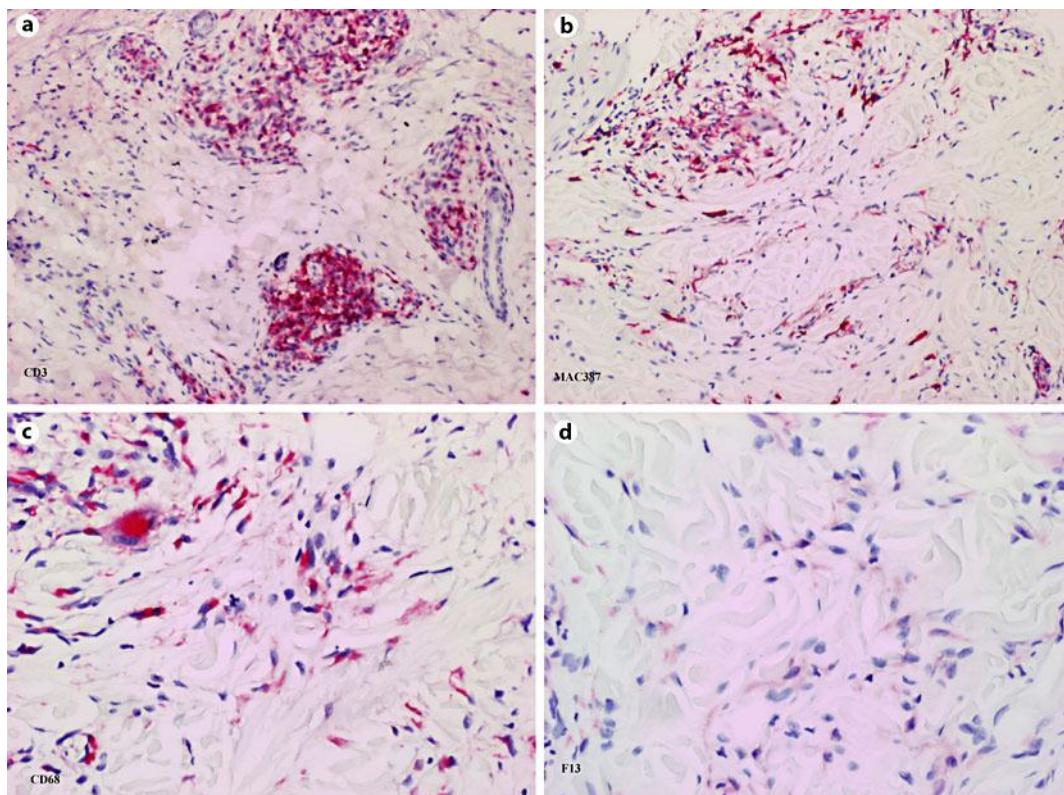


Fig. 2. Immunohistopathology of an ARGD papule. **a** Perivascular clusters of CD3+ lymphocytes ($\times 200$). **b** Perivascular distribution of MAC387+ macrophages ($\times 200$). **c** Interstitial spread of CD68+ macrophages ($\times 200$). **d** Interstitial presence of factor XIIIa+ DD1 ($\times 200$).

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