

Interstitial Granulomatous Dermatitis with Prominent Neutrophil Infiltration

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Dear Editor:

Interstitial granulomatous dermatitis (IGD) with arthritis is a new histological entity first described by Ackerman et al in 1993 [1]. Herein we report a case of IGD with prominent neutrophilic infiltration. A 57-year-old man was referred to our clinic with persistent, systemic, pruritic erythema and papules of four years' duration. Psoriasis

vulgaris was diagnosed and the patient was treated with topical steroids. Physical examination revealed well demarcated, fingernail-sized, reddish-brown plaques on the trunk and proximal lower limbs (Figure 1a). No linear subcutaneous band lesions, necrotizing papules, or ulcerated lesions were observed. The patient experienced neither joint pain, nor morning stiffness.

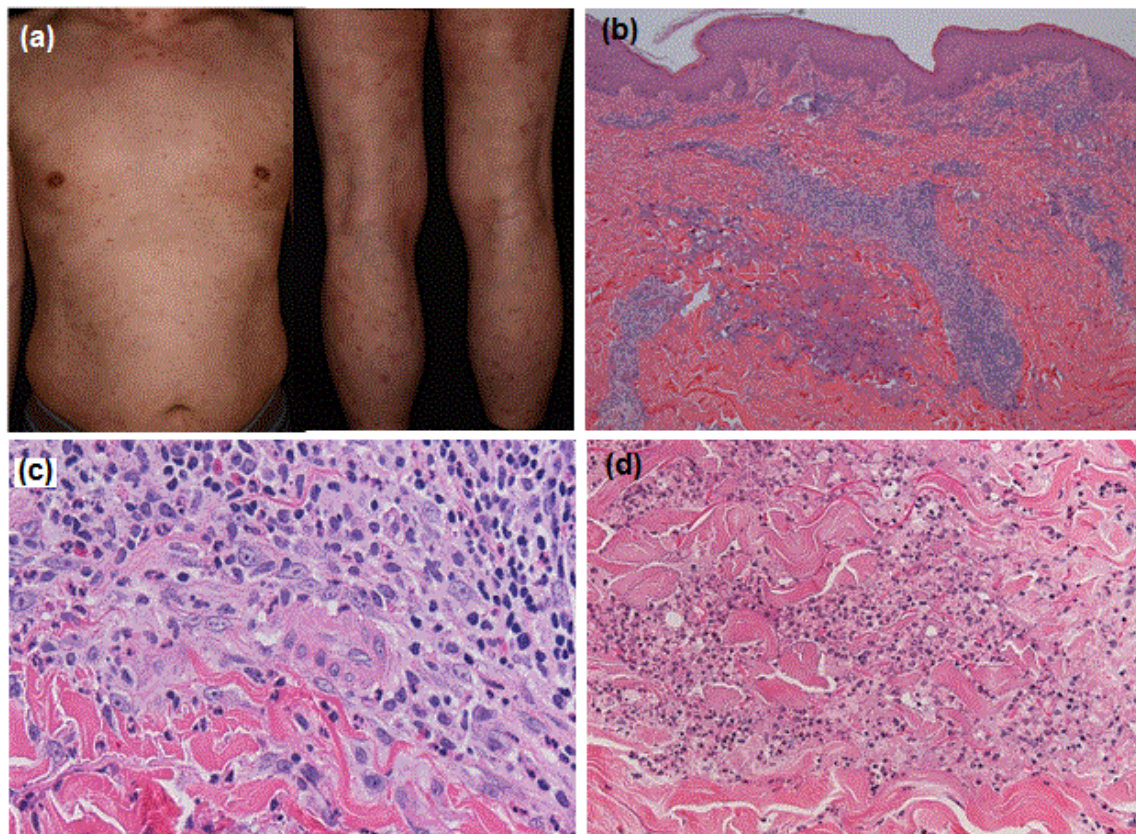


Figure 1: (a) Erythema and erythematous papules mixed with pigmented macules developed on the trunk and legs. (b) Dense and diffuse inflammatory infiltrate in the dermis (hematoxylin and eosin, 40 \times). (c) Infiltrate consisting mostly of histiocytes arranged interstitially (hematoxylin and eosin, 200 \times). (d) Severe collagen degeneration in concert with many neutrophils and lymphocytes. (hematoxylin and eosin, 200 \times).

The laboratory examinations demonstrated a normal, complete blood cell count. Rheumatoid factor was elevated at 19.0 U/ml (<15.0 U/ml) but auto-antibodies, including anti-cyclic citrullinated peptide antibody, anti-double-stranded DNA, anti-SS-A, and anti-SS-B antibodies were negative. The erythrocyte sedimentation rate (ESR) was 2.0 mm/1 hr. The patient did not fulfill the classification criteria

for rheumatoid arthritis. A histopathological examination revealed degenerated collagen surrounded by histiocytes in palisade-like formations (Figure 1b). Interstitially, the infiltration of a large number of leukocytes was observed between the collagen bundles in the reticular dermis. No leukocytoclastic vasculitis was found in the lesional tissue (Figures 1c and 1d). The skin eruptions were gradually

eliminated with topical steroids and anti-histamines although there was clear evidence of spontaneous regression as well.

IGD is a pathological entity characterized by a dense, diffuse, inflammatory infiltrate composed of histiocytes distributed through reticular dermis [2]. The pathological hallmarks include the presence of an interstitial infiltrate of histiocytes surrounding degenerated collagen fibers. Specifically, the histological findings in our case showed an interstitial infiltration of histiocytes between and around degenerated collagen fibers, so as to form a palisade-like structure, as well as a dense infiltration of neutrophils in the dermis. The differential diagnosis included interstitial granuloma annulare (IGA), and palisaded neutrophilic and granulomatous dermatitis (PNGD).

IGA is characterized by the presence of histiocytes in an interstitial, palisaded arrangement in the reticular dermis [1]. The pattern of inflammation is top heavy in IGA, whereas the histiocytes infiltrate equally densely throughout the dermis in IGD [1]. In our case, the pattern of infiltration of the histiocytes (Figure 1c) resembled that of IGD. PNGD is an unusual pathological entity characterized by the infiltration of leukocytes, leukocytoclastic vasculitis, and dermal fibrosis with nuclear dust [3]. Late lesions of PNGD sometimes develop palisading granulomas, requiring the condition to be differentiated from IGD. The skin lesions of PNGD were distributed symmetrically, mainly on the extremities, and usually presented an ulcerated or crusted appearance. In contrast to PNGD, the skin

eruptions in our case were distributed on the trunk and proximal lower limbs, and were never associated with ulceration, or necrosis. The clinical manifestations in our case could deny the diagnosis of PNGD. Peroni et al. reported two cases of IGD with abundant neutrophil infiltration [4] associated with breast, or head and neck, cancer. Although no malignant tumor was found in the present case, careful follow-up was required to monitor for possible development of malignancies.

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