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Palisaded neutrophilic and granulomatous dermatitis in association with sarcoidosis

Palisaded and neutrophilic granulomatous dermatitis (PNGD) has been associated with many conditions including rheumatoid arthritis, systemic lupus erythematosus, systemic vasculitis, and other diseases with circulating immune complexes. Lymphoproliferative conditions, bacterial endocarditis, and various drugs can also induce this condition. Many patients also have symmetric polyarthritis with various serological abnormalities. We present a case of a 46-year-old female who presented with painful erythematous annular plaques and nodules on her legs. The lesions started a week prior to visit and increased in number over the course of the week. The patient had an established history of sarcoidosis with past episodes of uveitis and erythema nodosum. The histopathological findings included a diffuse pandermal infiltrate mostly composed of neutrophils, nuclear debris, and strands of deeply eosinophilic degenerated collagen. Vasculitis was not present. No significant increase in dermal mucin was detected. Based on the clinical and pathological findings, the patient was diagnosed with late-stage PNGD. To our knowledge, this is the first case of PNGD described in an adult patient of sarcoidosis.

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Palisaded and neutrophilic granulomatous dermatitis (PNGD) is a relatively rare inflammatory dermatosis described in the literature with various names. The first account of the lesions similar to PNGD was described by Dykman et al. in 1965.[1] They reported an entity similar to PNGD in rheumatoid arthritis patients presenting with linear subcutaneous bands on the trunk. Finan and Winkelmann[2] used the term *Churg Strauss Granuloma* because of microscopic similarity to granulomas seen in Churg-Strauss Disease. In 1989, Smith et al.[3] described papular lesions in rheumatoid arthritis patients with features of leucocytoclastic vasculitis and palisading granulomas. In 1990, Finan,[4] in a letter to the editor, suggested that the rheumatoid papule and Churg-Strauss granuloma were the same entity. The most comprehensive account of this disease condition was reported by Chu et al. in 1993,[5] who also coined the term PNGD.

PNGD is often seen in patients with rheumatoid arthritis,[6] systemic lupus arthritis,[7] collagen vascular,[5] lymphoproliferative,[8] and immune complex diseases.[9] Drugs and bacterial endocarditis can also cause this disease. Patients with PNGD may develop symmetric polyarthritis. Microscopically, PNGD shows a spectrum of changes, which may reflect the evolution of lesions.[5] Early lesions show leukocytoclastic vasculitis with an associated dense neutrophilic infiltrate and degenerated collagen, mature lesions show palisaded granulomas surrounding leukocytoclastic debris, fibrin, and altered collagen, and resolving lesions show palisaded granulomas with dermal fibrosis and scant neutrophilic debris.[5]