A Ring of Deception: A Case of Granuloma Annulare in the Groin

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Introduction

Granuloma annulare (GA) is a benign, non-infectious granulomatous skin condition of unclear etiology that typically presents as annular, erythematous plaques. Though often localized to the hands, feet, arms and trunk, GA has several clinical variants and can mimic other dermatoses, posing diagnostic challenges. Because of its variable morphology and resemblance to infectious or inflammatory dermatoses, GA can be challenging to diagnose, particularly in uncommon locations such as intertriginous areas. We report a case of a 55-year-old woman with persistent bilateral inguinal lesions, mimicking intertrigo. This atypical groin presentation underscores the importance of a broad differential and histopathologic evaluation in ambiguous cases.

Case Presentation

A 55-year-old female with a history of hypothyroidism, multiple sclerosis, and seborrheic dermatitis presented with a 9-month history of a persistent, enlarging rash localized to the bilateral groin. The lesions were associated with burning and intermittent pruritus. She had previously tried multiple antifungal therapies, including fluconazole, ketoconazole, and oral terbinafine, all without improvement. On exam, the patient had large, skin-colored to slightly yellow, thin, annular plaques with erythematous borders and scattered papules across the bilateral inguinal creases and proximal thighs. Based on clinical suspicion of candidal intertrigo, she was empirically treated with antifungals and topical corticosteroids, which failed to improve her symptoms. A punch biopsy was subsequently performed. Histopathology revealed interstitial granuloma annulare, with mucin deposition and histiocytes dissecting between collagen bundles. No fungal elements were identified on PAS stain. The patient was started on triamcinolone 0.1% ointment and hydroxychloroquine 200 mg twice daily. She is currently pending follow-up to assess treatment response.

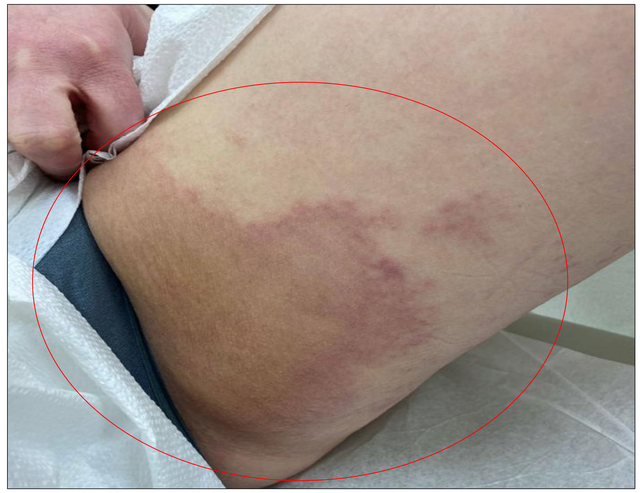

Figure 1. Annular plaque with erythematous borders and papules in the inguinal region.

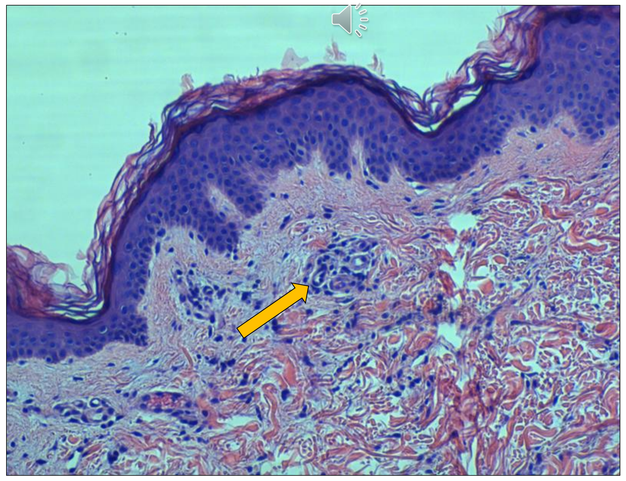

Figure 2. Punch biopsy showing interstitial histiocytic infiltrates dissecting between collagen bundles with increased dermal mucin, consistent with interstitial granuloma annulare.

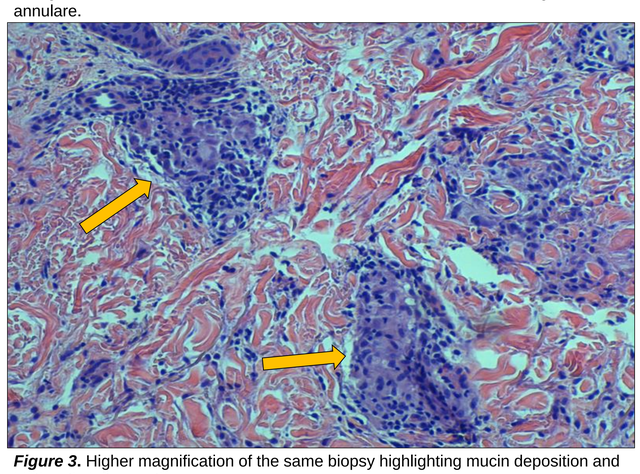

Figure 3. Higher magnification of the same biopsy highlighting mucin deposition and histiocytic inflammation.

Discussion

GA predominantly affects females, with a female-to-male ratio of approximately 3:1 and peak incidence in the fifth decade of life. Although relatively rare, with an estimated U.S. prevalence of 0.06% and incidence of 0.04%, GA is important to recognize due to its varied clinical presentations and potential associations with systemic disease. GA has been linked to diabetes mellitus (DM), hyperlipidemia, and autoimmune conditions such as hypothyroidism, rheumatoid arthritis (RA), and systemic lupus erythematosus (SLE). Our patient had a history of hypothyroidism, multiple sclerosis, and subsequent labs revealed hyperlipidemia. This further supports the hypothesis of metabolic and autoimmune dysregulation contributing to GA's pathogenesis. A similar diagnostic challenge to our case is highlighted in a report by Orleans et al. (2018), where GA localized to the groin was mistaken for tinea cruris and unsuccessfully treated with antifungal therapy before histological confirmation. In the previously reported case, the patient's lesions faded spontaneously over three months without intervention, a course typical of many GA cases due to their self-limiting nature. In contrast, the outcome of our current case remains unknown as we await the patient's response to hydroxychloroquine therapy. Both cases underscore the potential for GA to masquerade as more common conditions in the intertriginous region—an anatomical distribution that is atypical with limited documentation in the literature.

Conclusions

Granuloma annulare (GA) can be diagnostically ambiguous as it can clinically mimic other dermatologic conditions. Given its diverse presentations and overlap with inflammatory, infectious, and iatrogenic dermatoses, maintaining a broad differential is crucial, especially for lesions that are refractory to standard treatments. While GA may resolve spontaneously, chronic or refractory cases require tailored management, and further research is needed to elucidate GA's pathogenesis and optimize treatment strategies.

References

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