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CASE FOR DIAGNOSIS

Annular and Polycyclic Lesions on the Lower Limbs☆

Lesiones anulares y policíclicas en miembros inferiores

Medical History

The patient was a 63-year-old man with a past history of arterial hypertension and type 2 diabetes mellitus—for which he was being treated with enalapril, repaglinide, and metformin—as well as chronic liver disease associated with hepatitis c virus (HCV) infection. The patient sought care for annular lesions on both lower limbs that had first appeared 4 months earlier. The lesions began as erythematous-edematous papules that spread eccentrically, regressed centrally, and were completely asymptomatic. The cutaneous manifestations were accompanied by mild generalized joint pain, with no other signs of systemic involvement.

Physical Examination

Physical examination revealed annular and polycyclic erythematous plaques with infiltrated borders, confined to the lower limbs (Fig. 1).

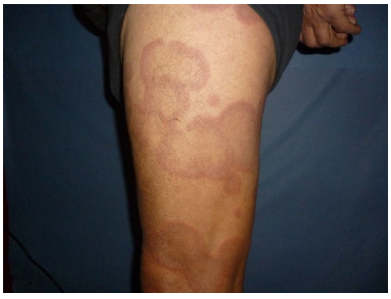

Figure 1

Histopathology

Incisional biopsy revealed a dense superficial perivascular lymphocytic infiltrate accompanied by abundant eosinophils distributed primarily around superficial and deep vessels (Fig. 2). Higher magnification revealed degranulation of eosinophils and flame figures (Fig. 3).

No interface dermatitis or lesions on the overlying epidermis were observed. Direct immunofluorescence was negative.

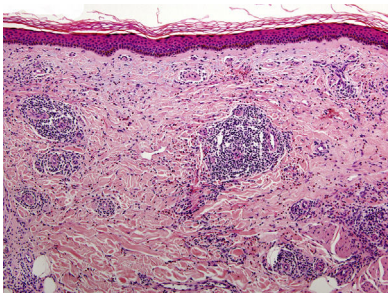

Figure 2 Hematoxylin-eosin, original magnification ×100.

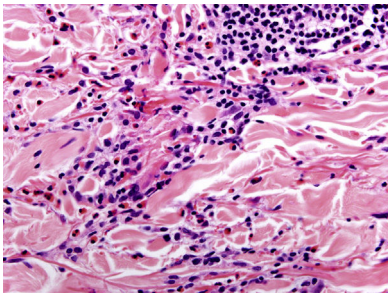

Figure 3 Hematoxylin-eosin, original magnification ×250.

Additional Tests

A full blood work-up was ordered, including complete blood count, biochemistry, coagulation tests, C-reactive protein, sedimentation rate, rheumatoid factor, thyroid hormones, immunoglobulin E, tumor markers, hepatitis B and hepatitis C serology, antinuclear antibodies, anti-DNA antibodies, extractable nuclear antigen antibodies, antithyroid antibodies, and complement. The only important alterations were mild eosinophilia (7.8%, 600 cells/μL) and the already diagnosed HCV infection.

What Is Your Diagnosis?

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Diagnosis

Clinicopathologic correlation supported a diagnosis of eosinophilic annular erythema (EAE).

Clinical Course and Treatment

During 3 years of follow-up, the patient experienced self-resolving flares of EAE lasting 1 to 2 months each. The patient refused systemic treatment.

For his HCV-induced chronic liver disease, the patient underwent a 12-week regimen of combination therapy with the direct antiviral agents sofosbuvir and ledipasvir.

Comment

EAE was first described as a childhood disease in 1981 by Peterson and Jarratt, who used the term annular erythema of infancy. Years later, Kahofer et al.[1] reported a case of EAE in a 62-year-old woman, and numerous other cases were later described in adults. This rare skin condition presents as multiple erythematous papules that spread outward, forming annular or polycyclic plaques with central clearing, located mainly on the trunk and limbs.[2] The lesions tend to be asymptomatic or mildly pruritic and generally are not accompanied by systemic disease. The lesions tend to heal spontaneously or after treatment without leaving sequelae, although in some cases they may leave residual hyperpigmentation.

Histopathology shows an inflammatory infiltrate composed of lymphocytes, histiocytes, and numerous eosinophils. Direct immunofluorescence is negative.

Diagnosis is based on clinicopathologic correlation.[3] The differential diagnosis includes other figurate erythemas such as erythema annulare centrifugum, disseminated granuloma annulare, subacute cutaneous lupus erythematosus, erythema chronicum migrans, urticarial vasculitis, and bullous pemphigoid in the prebullous phase.

Although controversy persists, the most widely accepted theory is that EAE is a clinicopathologic variant within the spectrum of Wells syndrome.[2,4] Although the classic manifestations of Wells syndrome include degranulation of eosinophils, flame figures, and granulomatous reaction, all of these findings have also been reported in EAE, although less frequently, perhaps depending on the degree of progression at the time of biopsy.

Associated disorders identified by a 10-year prospective study included chronic gastritis associated with *Helicobacter pylori* infection, diabetes mellitus, HCV infection, and chronic kidney disease.[2] Despite the chronic nature of this dermatosis, control of associated disorders is associated with longer periods of remission.

Although this entity is considered benign, cases associated with neoplasms such as clear cell renal carcinoma,[4] metastatic prostate adenocarcinoma,[5] and thymoma[6] have also been reported.

In our patient, although we found an association with HCV infection, the clinical course of the dermatosis was not modified by treatment with direct antiviral agents.

As for treatment, although the reported cases have responded well to antimalarials as monotherapy or in combination with steroids,[1,2,4] this good response does not tend to last and a high recurrence rate has been reported.

Conflicts of Interest

The authors declare that they have no conflicts of interest.

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