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Case Report

An unusual case of erythema annulare centrifugum involving face

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Abstract Erythema annulare centrifugum (EAC) is a reactive figurate erythematous disease characterised by gyrate and annular plaques with erythema. The disease is generally known as involving the extremities and trunk, but sparing the face. We present a young male patient with recurring annular erythematous scaly lesions on his face, frequently in a year since four years, with no systemic involvement. Histologically, in addition to slight parakeratosis and spongiosis in the epidermis, there was superficial lymphocytic and histiocytic perivascular infiltration with the classic coat sleeve appearance of EAC in the dermis. Although uncommon, we suggest EAC should be considered in the differential diagnosis of relevant lesions on face.

Key words
Erythema annulare centrifugum, face, recurrence.

Introduction

Erythema annulare centrifugum (EAC) is a relatively rare disease characterised by erythematous and annular plaques usually involving the legs, arms and sporadically the trunk, but not the face.[1,2] The disease is one of the figurate or gyrate erythemas usually presented as asympthomatic, arcuate, circinate or polycyclic erythematous and violaceous plaques with indurated margins and sometimes a trailing scale noted on the inner aspect of the advancing arc.[1,3] The etiopathogenesis of EAC is not known exactly. It is commonly thought that the eruption is a representation of a cutaneous manifestataion of a hypersensitivity reaction to a myriad of underlying conditions.[2,4] Although the link between EAC and underlying physical stressors such as malignancy, infections, systemic illness, pregnancy, medications, surgery, allergies and also emotional stress are reported previously.[3-5] In the large majoritiy of cases the etiology remains obscure even after prolonged observations and investigations.[6] Histologically perivascular dermal lymphocytic infiltrates are gathered in a coat sleeve appearence in the dermis with concomitant papillary edema, sometimes together with epidermal spongiosis and parakeratosis. The course of the disease is highly variable because EAC may last for as little as few weeks or as long as three decades.[2]

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Case report

An 18-year-old male patient presented with asympthomatic, erythematous, annular, scaly plaques on his face, recurring 6-8 times a year, since four years. Although it was involving the trunk or extremities occasionally, the majority of recurrences were on the face. He was using a mid-potent topical steroid to reduce the severity

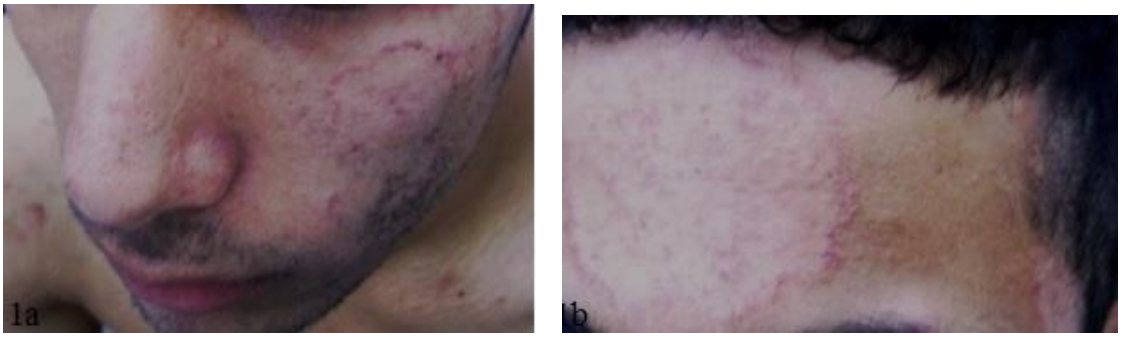

Figure 1 The arcuate, scaly, expanding lesions on **(a)** the left cheek and **(b)** forehead, fading centrally.

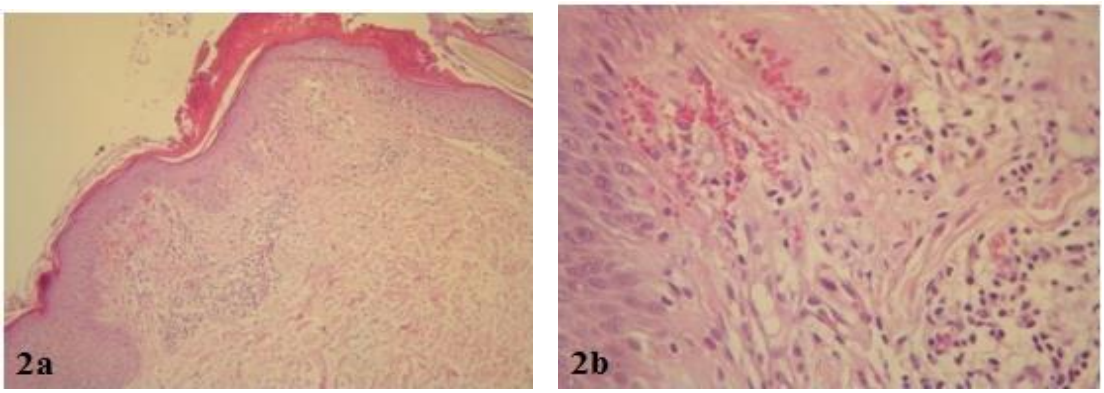

Figure 2 (a) Small (X10; HE), and **(b)** big (X40; HE) magnifications of the lesion. In addition to slight parakeratosis and spongiosis in the epidermis, we can see superficial perivascular lymphocytic and histiocytic infiltration in classical coat sleeve appearance in the dermis.

of active lesions. Clinical examination for a coexisting pathology was negative except a slight discoloration on his right first toenail, indicating tinea unguium. Due to clinical resemblance with tinea faciei, KOH preparation was performed and was found negative. The basic laboratory data including CRP, RA and ANA were negative. IgE level was quite high (>2500 ng/ml), but eosinophil counts were in normal range. Prick test to some frequently encountered moulds, mites, wild weed and grass polens were negative. The patient declared no food allergy and concomitant event like physical or emotional stress before the recurrences. Clinically the arcuate, expanding, scaly lesions on the forehead and left cheek were fading out centrally **(Figure 1)**.

Biopsy was performed on the active lesion at forehead - scalp line. Histologically, in addition to slight parakeratosis and spongiosis in the epidermis, superficial lymphocytic and histiocytic perivascular infiltration with the classic coat sleeve appearance of EAC was detected in the dermis, and there was no sign of any microorganism **(Figure 2)**.

We also could not detect hyphae or spores regarding a fungal infection with GMS staining. Due to the literature data suggesting the most common accompanying entity as tinea in EAC,[7] and the tinea unguium clinically diagnosed on the toenail, we began systemic therapy with terbinafine 250 mg/ day. The lesions totally disappeared at the end of the first week of therapy. The patient continued the antifungal therapy for one month and then stopped taking the tablets. In the following six months the patient declared two recurrences, the first

recurrence was two months after stopping the therapy.

Discussion

After the first clinical evaluation of the patient, eczema and tinea were the two main entities for differential diagnosis: Eczema for its recurrent feature and tinea for its clinical appearance. The high IgE level and fast response of the lesions to the topical steroid, as the patient declared, were the supporting points for eczema. Although the clinical presentations of the lesions and lack of pruritus were rendered unlikely for typical atopic dermatitis; due to the sensitive skin that these patiens have, concurrence of contact dermatitis may be seen frequently.[8] The geographic shape of the lesions also made us think about contact dermatitis but the patient persistently denoted no probable factors for allergic or irritant contact dermatitits. The second entity, tinea faciei was quite likely regarding the clinical presentation of the lesions. But unlike tinea, the recurrent character of the lesions described by the patient, and immediate resolution of them after beginning therapy, made us to step back from this dignosis. As a matter of fact, in addition to HE staining of the tissue, both KOH preparation and GMS staining were also found negative for fungi.

Together with the historical (i.e. relapses without a known triggering factor), clinical (i.e. centrally fading arcuate lesions without pruritus) and histological (superficial lymphocytic and histiocytic perivascular infiltration with the classic coat sleeve appearance) made us to interprete this case as EAC. But contrary to the literature data,[1,2,9] the majority of recurrences of this case were on the face. EAC is a benign reactive process with a self limited course,[1] but it may be very embarrasing in the routine social life of a young patient due to recurrences on an exposed body site as face. For the time being, it is not clear whether these lesions are idiopathic or the cutaneous manifestations of a hypersensitivity reaction to tinea unguium and/ or unknown allergic factor(s) producing the high IgE level. Although there are very few reports suggesting the face involvement in EAC,[10,11] they have been the presentations of previously diagnosed connective tissue disorders. This recurrent EAC case exceptionally involved the face without any concomitant systemic disease and therefore, although unusual, we suggest that EAC should be considered in the differential diagnosis of the relevant lesions on face.

Abbreviations

ANA: Antinuclear antibody
CRP: C-reactive protein
EAC: Erythema annulare centrifugum
GMS: Grocott methenamine silver
HE: Hematoxylin and eosin
KOH: Potassium hydroxide
RF: Rheumatoid factor

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