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Case Report

Erythema annulare centrifugum: a case report

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ABSTRACT

Erythema annulare centrifugum (EAC) is a rare cutaneous disease characterized by polycyclic lesion simulating urticarial papules that enlarge centrifugally with central clearing and trailing scales. . It is classified as a reactive erythema and has been associated with various underlying conditions, including malignancies. Diagnosis is established on history, clinical features, and supporting examination. No treatment seems to be effective for this disease and there is still a lack of consensus regarding the best approach. Current choices are focused on treating the underlying subjective complaints. We reported a case of erythema annulare centrifugum in a 49 year old female patient.

Keywords: Erythema annulare centrifugum, Reactive erythema, Malignancy, Trailing scale

INTRODUCTION

Erythema annulare centrifugum (EAC) is an annular, erythematous lesion that appears as urticaria-like papules that enlarges centrifugally, then clears centrally. A fine scale is sometimes present inside the advancing edge, known as a trailing scale. It is classified as a reactive erythema and has been associated with various underlying conditions, including malignancies. This unusual inflammatory condition is characterized by a polycyclic erythematous eruption that slowly enlarges at a rate of 1 to 3 mm/day.[1]

Incidence is unknown with adults being the predominant population getting affected. Although childhood EAC and neonatal EAC cases were also reported. Retrospective studies have shown that the age of onset ranges from 5 to 90 years, with the average age ranging from 40 to 50 years according to retrospective studies.[2,3] We reported a 49-year-old woman with a diagnosis of EAC. The patient underwent outpatient care and showed improvement after being prescribed a topical corticosteroid, topical tacrolimus and oral antihistamine.

CASE REPORT

A 49-year-old female presented with intensely pruritic reddish patches around the thighs, on the chest, and on the popliteal fossa for 2 months. These pruritic patches initially started in thighs and popliteal fossa and gradually involved chest. There was no similar history in the past. She is a known case rheumatoid arthritis since three years and on treatment with hydroxychloroquine 200 mg twice daily dosage. There was no history of diabetes mellitus, hypertension, drug allergy, or similar complaint in the family. Cutaneous examination revealed multiple discrete well defined annular erythematous plaques with central clearing and centrifugal spread with fine collarette of scales on its trailing edge were present over thighs and popliteal fossa (Figure 1 and 2). Face, trunk, palms and soles, mucous membrane were spared. General physical examination and systemic examination were uneventful. Routine haematological and biochemical investigations

revealed no abnormalities. A potassium hydroxide microscopic examination was performed and was negative for a fungal infection. Histopathological examination revealed epidermis showing mild hyperkeratosis with parakeratosis and superficial dermis moderate pericapillary lymphocytic infiltrate in coat sleeve pattern (Figure 3) which supported the diagnosis of EAC. The patient was started on systemic antihistamines and topical corticosteroids and tacrolimus. After 2 weeks of treatment, although improvement of lesions were minimal, the patient reported marked improvement in subjective complaints without occurrence of new lesions. After 4 weeks lesions completely improved with no recurrence till date.

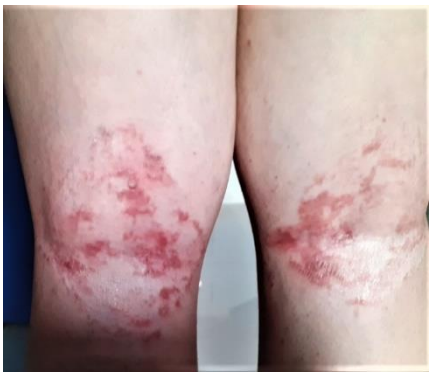

Figure 1: Showing erythematous annular scaly plaque over popliteal fossa.

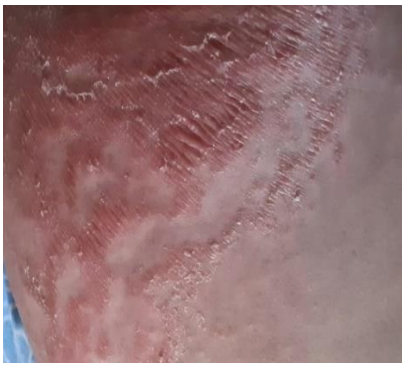

Figure 2: Close image clearly depicting the trailing scales.

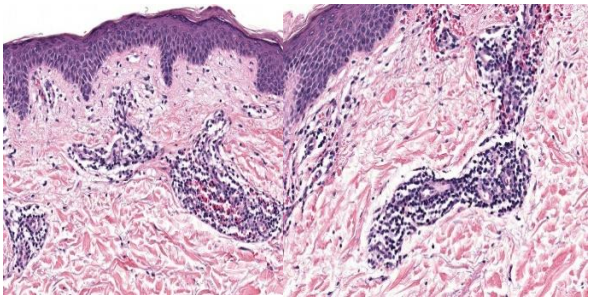

Figure 3: Histopathological image with epidermis showing mild hyperkeratosis with parakeratosis and superficial dermis moderate pericapillary lymphocytic infiltrate in coat sleeve pattern.

DISCUSSION

EAC is a chronic skin disorder that presents as a centrifugally-enlarging thin annular erythematous plaque. Represents cutaneous manifestation of a type IV hypersensitivity reaction to different causes and underlying systemic diseases, including: food allergy, arthropod bites, drug reactions (finasteride, chloroquine, hydroxychloroquine, hydrochlorothiazide, piroxicam, etizolam, cimetidine, penicillin, salicylates, spironolactone, gold sodium thiomalate, amitriptyline, ustekinumab, rituximab), infections disease (bacterial, viral, parasitic, fungal, mycobacterial), endocrine and immunological disorders (menstrual cycle, Graves disease, Hashimoto thyroiditis, Sjögren syndrome, autoimmune progesterone dermatitis), hematological and other neoplastic disorders (Hodgkin lymphoma, non-Hodgkin lymphoma, acute leukemia, histiocytosis, multiple myeloma, nasopharyngeal carcinoma, prostatic adenocarcinoma, breast carcinoma, ovarian carcinoma).[4-9]

In most cases, there is no detectable predisposing condition. In our case rheumatoid arthritis can be considered as a precipitating factor. Diagnosis is established on history, clinical features, and supporting examination. EAC is clinically diagnosed by observing the presence of erythematous macular lesion or urticarial papules that enlarge peripherally to form an annular, arcuate, or polycyclic appearance. Histological examination typically shows characteristic changes in the form of epidermal parakeratosis and spongiosis with superficial perivascular infiltrates in a coat sleeve pattern.[10] EAC is divided into superficial and deep forms.[11]

The superficial form appears as fine scales are more prominent on the inner aspect than the edges. The lesions spread gradually to form a large annular plaque with central clearing, with the edge of the lesion often increasing by several millimeters a day. After a particular period, the lesion can disappear or often change into a new lesion. In the deep form, there is no scale and the shape of the rings is infiltrated.[12] Differential diagnosis of the condition included tinea corporis, subacute cutaneous lupus erythematosus, annular pityriasis rosea, erythema migrans, erythema marginatum, erythema gyratum repens and secondary syphilis. No treatment seems to be effective for this disease and there is still a lack of consensus regarding the best approach.

Current choices are focused on treating the underlying subjective complaints, which include topical use of steroids and antihistamine to reduce itching. Other agents such as calcipotriene, oral metronidazole, etanercept subcutaneous, and subcutaneous α interferon have also been shown to be useful.[13] Other therapies such as topical vitamin D analogs can be combined with ultraviolet irradiation as another therapeutic option.[12] EAC is a self-limiting disease that may last from only a few weeks to decades and usually resolves after the underlying disease is treated.[13,14] The disease has a good prognosis, but

lesions tend to recur over months to years, with most cases finally resolving spontaneously.[15]

CONCLUSION

Unless EAC is associated with an underlying disease, there are usually no complications. Despite being a rare disease, EAC must be considered when encountering an annular erythematous plaque. Though an effective treatment is lacking, therapy is mainly directed towards relieving symptoms.

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