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Case Report

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Erithema Annulare Centrifugum During Ustekinumab Use: A Case Report

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Abstract

The use of immunologicals for the treatment of plaque psoriasis has become a particularly important therapeutic option. Its use has been growing and skin reactions have been described. Regarding the immunobiological ustekinumab, there are few skin reactions described in the literature. We report here a rare case of erythema annulare centrifugum during the use of ustequinumab in a patient with plaque psoriasis.

Keywords: *Erithema Annulare Centrifugum; Ustekinumab; Psoriasis.*

Introduction

Ustekinumab is a fully human IgG1kappa monoclonal antibody that binds with specificity to the shared protein subunit p40 of the human cytokines interleukin (IL)-12 and IL-23. It is used for the treatment of moderate to severe psoriasis [1,2].

During its use, skin reactions have been poorly described in the literature. We report here a rare case of erythema annulare centrifugum during the use of ustequinumab in a patient with plaque psoriasis.

Case Report

A 40-year-old man, previously hypertensive, diabetic, with hypothyroidism, taking amlodipine, hydrochlorothiazide, metformin and levothyroxine, attended the dermatology outpatient clinic presenting erythematous scaly plaques with significant infiltration distributed throughout the body. The patient was diagnosed with plaque psoriasis (PASI >10) and was initially treated with methotrexate, but evolved with altered liver enzymes and oral mucositis. Methotrexate was discontinued and ustekinumab was introduced.

At the 12th week of ustekinumab use, the patient reached PASI 90 and, after two years of regular treatment, there was the appearance of annular plaques, with an erythematous border and central-centrifugal desquamation in the left axilla and abdomen (Figure 1). The hypothesis of erythema annulare centrifugum (EAC) was raised. A biopsy of the skin lesion was performed and the anatomopathological revealed foci of parakeratosis, hypergranulosis, acanthosis with mild spongiosis of the epidermis and, in the dermis, the presence of congested vessels in the papillary chorion and also discrete superficial perivascular mononuclear inflammatory infiltrate, confirming the diagnostic hypothesis of EAC (Figure 2). The therapeutic management of EAC was performed using high-power topical corticoid with complete resolution of the condition.

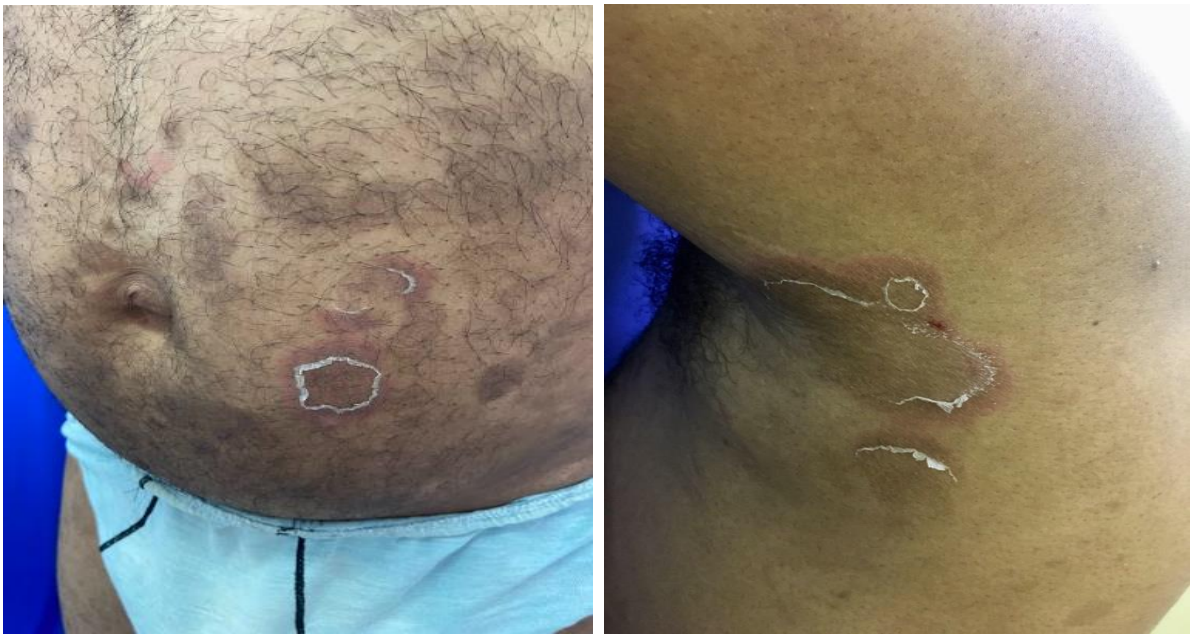

Figure 1: Erythema annulare centrifugum. Annular plaques, with an erythematous border and central-centrifugal desquamation in the left axilla and abdomen.

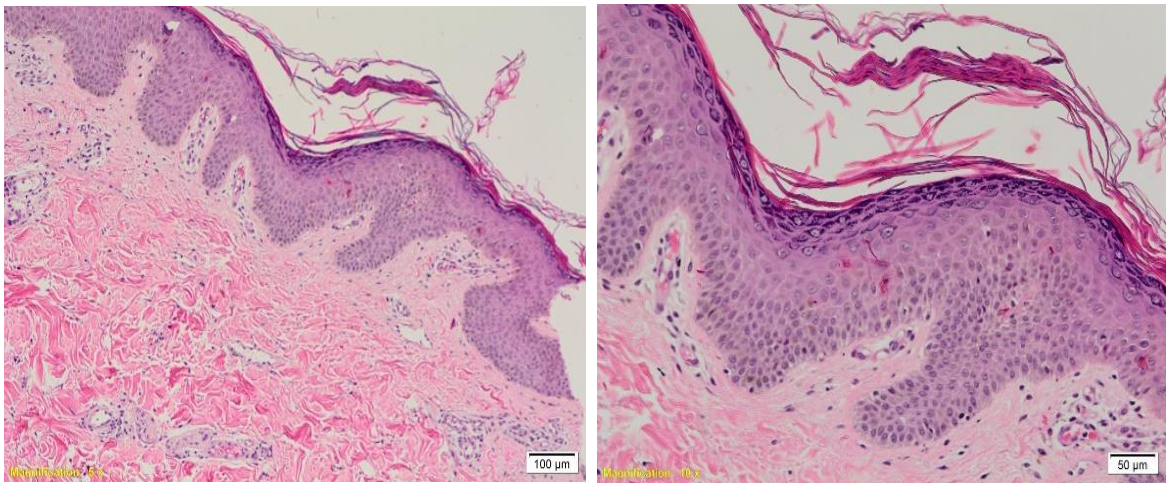

Figure 2: Histopathology of erythema annulare centrifugum. Foci of parakeratosis, hypergranulosis, acanthosis with mild spongiosis of the epidermis. In the dermis, congested vessels in the papillary chorion and discrete superficial perivascular mononuclear inflammatory infiltrate.

Discussion

The use of immunologicals for the treatment of plaque psoriasis has become a particularly important therapeutic option. Its use has been growing and skin reactions have been described. Currently, in relation to adverse skin reactions related to the use of immunobiologicals, we found a greater number of scientific evidence during the use of anti-tumor necrosis factor (anti-TNF) [3,4,5]. Such effects were classified into injection site reactions, infusion reactions, papulopustular eruptions (including psoriasis), granulomatous reactions, autoimmune skin diseases (such as bullous pemphigoid), vasculitis, skin infections, and malignant skin tumors [4].

Regarding the immunobiological ustekinumab, it is a fully human IgG1kappa monoclonal antibody that binds with specificity to the shared protein subunit p40 of the human cytokine's interleukin IL-12 and IL-23. It is indicated in the treatment of moderate to severe plaque psoriasis in adults who have not responded to, or who have a contraindication, or who are intolerant of other systemic therapies, including cyclosporine, methotrexate, and ultraviolet A radiation associated with psoralen (PUVA) administration. IL-12 and IL-23 have been shown to be elevated in the skin and blood of patients with psoriasis [1,2].

Regarding cutaneous adverse reactions related to treatment with ustekinumab, infections at the application site are the most common, but pruritus and acne can also occur [1,2]. In the literature there is a case report of a lymphomatoid drug reaction after treatment for palmoplantar psoriasis, there is a description of flares, alopecia, bullous dermatosis by linear IgA and there is only one case report of recurrent centrifugal erythema annulare described during treatment of plaque psoriasis [6,7,8,9,10,11].

EAC is a variant of figurate erythema characterized by non-indurated, annular patches with associated trailing scales inside the erythematous borders. EAC as an inflammatory skin disease is a clinical rection pattern that does not represent a specific clinicopathological entity. The etiology is mainly unknown, but EAC has been associated with infections, parasitic infestations, drug eruption, and rarely, occult malignancies [12]. Two case reports of EAC have been reported after hydroxychloroquine therapy for lupus erythematosus [13,14]. One case report of EAC in a patient using rituximab [15]. EAC may be self-limiting, but anti-inflammatory and immunosuppressive medications are usually prescribed for the treatment [12].

Conclusion

We report here a case of EAC after ustekinumab therapy. The causality is difficult to be evaluated, since there is only one case described in the literature and the patient has multiple comorbidities and uses several continuous use medications. Therefore, a larger number of reported cases is necessary. However, EAC is rare and dermatologists should be aware of this possible association.

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