Erythema multiforme as a reaction to imiquimod 5% cream

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Abstract

We describe a patient with erythema multiforme following a local site reaction after the use of topical imiquimod 5% cream and review the literature for previous reports of this cutaneous adverse effect.

Keywords: erythema multiforme; imiquimod; actinic keratoses; pharmacology

Introduction

A case of erythema multiforme following a local site reaction in a patient using topical imiquimod 5% cream is described.

Case Synopsis

A light-skinned man in his 60s with an extensive history of actinic keratoses and basal cell carcinoma was started on imiquimod 5% cream two times per week for field treatment of actinic keratoses on his scalp. He had a past medical history of herpes labialis, but denied any recent flares or symptoms suggestive of an outbreak. He was otherwise healthy, had no other symptoms, and had not been recently started on any other medications. One week after beginning the imiquimod, he developed progressively worsening erythema, tenderness, and crusting on his scalp (**Figure 1**). Seven days later, he presented to clinic with erythematous targetoid papules and plaques with dusky, occasionally vesicular centers distributed acrally on all extremities. Additionally, he displayed erosions and crusted plaques on his buccal mucosa, lips, and tongue (**Figure 2**). He denied systemic symptoms.

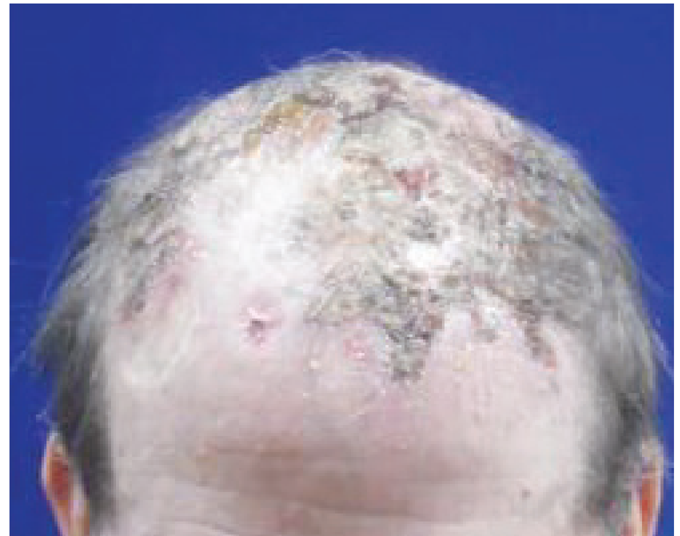

Figure 1. *Severe local site reaction to imiquimod 5% cream with crusting, erythema, and oozing on the scalp.*

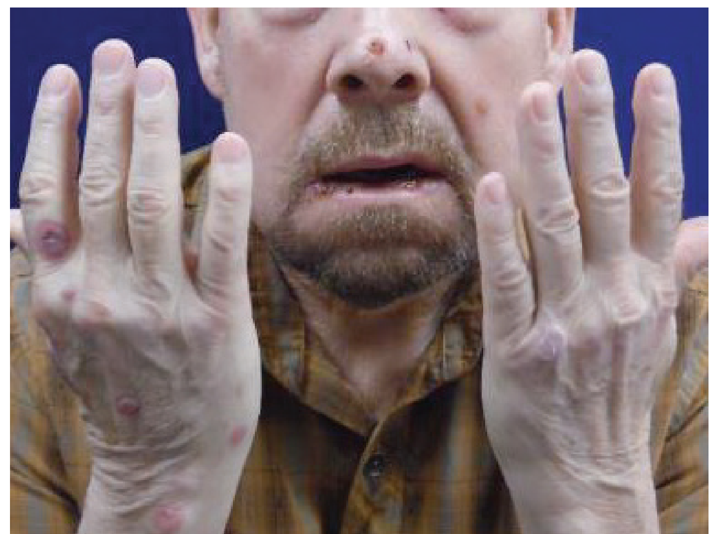

Figure 2. *Erythema multiforme. Targetoid lesions distributed on extremities and mucosal erosion and crusting.*

Given the clinical suspicion for erythema multiforme, the patient was started on oral prednisone, as well as fluocinonide solution for oral lesions. Oral clindamycin was added as well, given possible concern for superinfection of his scalp. His rash resolved two weeks after initiation of treatment with

no sequelae.

Discussion

Imiquimod is a topical immunomodulator that acts on both the innate and acquired immune systems via activation of toll-like receptor 7, initiation of cytokine secretion, and stimulation of lymphocytes [1]. Given that it acts by locally inducing inflammation, the most common side effects of imiquimod are those seen at the application site, including erythema, burning, and irritation [2]. Systemic side effects of imiquimod, most typically flu-like symptoms and headaches, occur at a much lower frequency [3]. These systemic side effects of imiquimod have been hypothesized to relate to systemic cytokine release rather than systemic absorption of imiquimod, as absorption is minimal across normal skin [2,4].

Erythema multiforme as a reaction to imiquimod 5% cream has only been described twice before in the literature [4, 5]. In both previously described cases, as well as in this one, the patients developed severe local reactions at the application sites on the face and scalp before erythema multiforme manifested on the body. It is thus possible that application of imiquimod to inflamed, wounded skin with impeded barrier function allowed for more systemic absorption [4, 5], which may have triggered the inflammatory response believed to underlie the pathogenesis of erythema multiforme [6]. Whether erythema multiforme is a response to the systemic release of cytokines induced by imiquimod or a response to increased systemic absorption of the drug remains to be fully elucidated. Regardless, it should be noted that erythema multiforme can occur in the setting of imiquimod treatment; particular care should be taken with continued use of imiquimod cream after extensive local site reactions.

References

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