



Figure 1. Labial and cheek fixed drug eruption after fluconazole intake in our patient.

trial, as in our patient. Regarding mucosal FDE, different morphologies have been described, including bullous/erosive and aphthous forms, the most easily misdiagnosed as herpes simplex lesions.¹ Since 1994, various cases of FDE to fluconazole have been described, some of them with herpes simplex labialis-like lesions, as our patient presented.³ Establishing if the lesions are herpes simplex lesions or FDE mucosal lesions is critical to avoid wrong diagnosis and treatment.

Severity and course of FDE have been related to viral infections through a subtype of CD8⁺ T cells called tissue-resident memory T cells. These cells may appear after viral skin infections, and they stay circumscribed to the original location for at least 6 months. Because of cross-reactive drug antigens, these cells may be responsible for FDE.⁴

Only 1 case of FDE to itraconazole has been described with cross-reaction to fluconazole, but recently, a lack of in vitro cross-reactivity between these 2 triazoles has been described in another patient.⁵ Thus, itraconazole may be a safe option for recurrent candidiasis in fluconazole-sensitive patients, and oral challenge should be performed to rule out cross-reactivity.

In conclusion, we would like to draw attention to misdiagnosis of FDE to fluconazole as *herpes simplex labialis* to prevent unnecessary treatments. Itraconazole would be a therapeutic alternative in these patients.

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Alopecia Areata After Treatment with Dupilumab

To the Editor:

Dupilumab, an IL-4 and IL-13 blocking antibody, is the first targeted biologic therapy approved for the treatment of atopic dermatitis (AD).¹

A meta-analysis investigated the safety of dupilumab and found that a severe adverse event was uncommon in both the dupilumab treatment group (2.0%, 36/1789) and the control group (4.0%, 37/916). Nasopharyngitis, headache, upper respiratory tract infection, injection site reactions, conjunctivitis, herpes infections, and AD exacerbation were the most common adverse events.²

A case report has described alopecia areata (AA) as a possible adverse reaction to dupilumab treatment.³

We hereby describe the second case worldwide, a patient treated with dupilumab for AD who developed AA within 1 week of first injection.

Our 24-year-old male white patient was diagnosed with severe AD and was treated with dupilumab. He had no history of alopecia. Dupilumab was started at 600 mg subcutaneously on day 0, followed by 300 mg every 2 weeks. After 4 weeks, the patient experienced significant improvement of AD. After 1 week of treatment, the patient noticed a rapidly increasing number of bald patches in his scalp (Fig. 1). He was examined after 8 weeks of treatment. A significant clinical

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Figure 1. Clinical photograph of AA during dupilumab treatment.

improvement of his AD was seen, and the appearance of uninflamed, nonscarring, and even circular patches of alopecia was described.

Fungal microscopy and polymerase chain reaction did not identify any dermatophytes or yeast. In view of the possibility of false-negative findings, he was nevertheless treated with ketoconazole shampoo 2%. Despite this reaction, our patient chose to remain on dupilumab treatment because of the satisfied outcome and improvement of AD. The patient reported gradual improvement of AA after an additional 3 weeks of treatment.

This case is the second occurrence reported worldwide of a patient treated with dupilumab for AD, who developed AA. Because dupilumab is improved as a newly targeted biological treatment of AD, it is important to be aware of any potential adverse reaction.

One may, however, question whether the AA that has now been described by 2 patients is accurately interpreted as an adverse effect, or if rather, it represents a relapse of an underlying subclinical AA. The timeline for the AA (1-week posttreatment) seems short for a medication-induced AA. Alopecia areata is a common and chronic skin disease with an unknown etiology, which raises the possibility of an independent occurrence.

Another argument for considering the AA of our patient as sporadic is the fact that the patient reported gradual improvement of AA after an additional 3 weeks of dupilumab.

There are some case reports suggesting that dupilumab may be a proper treatment of AA.⁴ This could be due to common pathways that are activated in both AA and AD, such as T helper 17 and IL-13, which is significantly upregulated in both AD and AA lesions compared with nonlesional skin.⁵

There is therefore a need of more studies to understand the impact of dupilumab on AA.

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Validation of an Evidence-based Educational Smartphone Application for Atopic Dermatitis

To the Editor:

With a lifetime prevalence of 20% in the United States, atopic dermatitis (AD) is the most burdensome skin condition in the United States.¹ With mean adherence to recommended treatments at 32%, incomplete use of mainstay therapy may contribute to the high morbidity observed.² Inadequate education about eczema and treatments significantly affects adherence. As mobile technology becomes ubiquitous, patients are seeking smartphone applications (apps) as educational resources in managing chronic medical conditions such as AD.

Because patient education is crucial in adherence, we wanted to understand the role of evidence-based apps in patient education on AD. We hypothesized that patients would prefer educational materials for AD in app form over the traditional paper format.

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