RESIDENT RESOURCE CENTER

- First Reported Case of Facial Rash After Dupilumab Therapy
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CASE REPORT: FIRST REPORTED CASE OF FACIAL RASH AFTER DUPILUMAB THERAPY

By Yoseph Dalia, BS and Sandra Marchese Johnson, MD

Atopic dermatitis (AD) is a common and chronic inflammatory skin disease characterized by pruritic, excoriated, xerotic, erythematous, and fissured skin. AD is often thought of as a disease of childhood, as it affects one in four children; however, two to three percent of adults are also afflicted by the condition.[1,2] Unfortunately, patients with advanced forms of AD often manifest with psychological conditions, such as anxiety, depression, and decreased quality of life.[3,4] Treatment options for moderate to severe AD have been limited, due to disappointing results. AD is often associated with allergic rhinitis and asthma, which has led to investigation of immunotherapy for its treatment.

Dupilumab was approved by the FDA in 2017 for use in the treatment of adults with moderate to severe AD. Dupilumab is an interleukin (IL)-4 receptor alpha antagonist that subsequently inhibits IL-4 and IL-13 signal transmission.[5,6] Treatment with dupilumab has led to significant improvements in healing of skin lesions and in patients' health-related quality of life (HRQoL).[7] These outcomes were documented by numerous clinical trials and meta-analyses. Studies have also shown that increased treatment duration with dupilumab, and the adjuvant use of topical corticosteroids enhances the efficacy of dupilumab. Patients treated with dupilumab had a lower risk of skin infections, which may be due to improved skin barrier function.

Commonly observed adverse events in patients receiving dupilumab include conjunctivitis, headache, nasopharyngitis, and local injection site reactions.[8] Extremely rare side effects reported include cicatricial extropion and alopecia areata.[9,10] Overall, dupilumab has clinical advantages for AD patients over other immunotherapeutic agents, such as omalizumab.[11-13] We present a patient with moderate to severe AD who developed a facial rash after treatment with dupilumab. A literature review did not yield a history of this previously occurring in patients.

CASE PRESENTATION

A 26-year-old white woman with a long history of AD and contact dermatitis who failed to improve with methotrexate was treated with dupilumab. She was satisfied with the treatment, but six months later developed worsening "rash" on her face and neck. (Figures 1, 2) Biopsy was performed, which showed spongiotic dermatitis, most likely contact dermatitis. Her laboratory workup was unremarkable, as she showed an anti-nuclear antibody (ANA) of 1:160 homogenous and speckled. The patient's anti-Ro/SSA and anti-La/SSB were also negative ,and her erythrocyte sedimentation rate was 6mm/hr. Multiple creams were attempted but provided no relief.

DISCUSSION

Dupilumab is the first systemic treatment FDA approved in the US for the treatment of AD. It was studied in more than 2,100 patients in the Phase 3 clinical trials. To our knowledge, this occurrence of persistent facial rash was not observed. The cause of this issue is elusive. We have reported it to Regeneron,

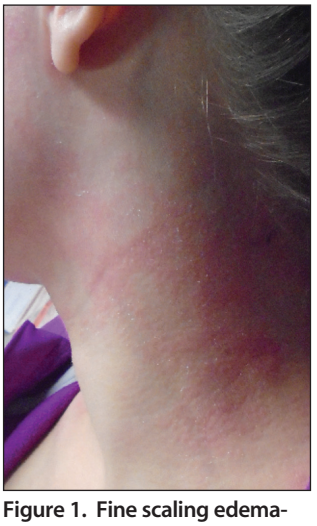

Figure 1. Fine scaling edematous pink red plaques noted on face and left anterolateral neck.

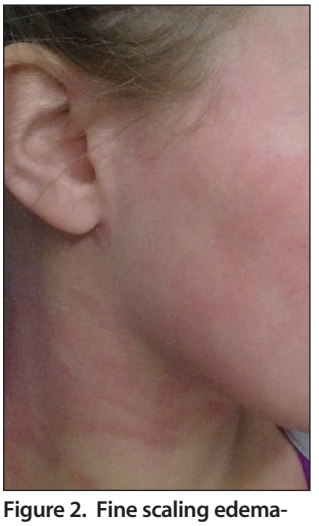

Figure 2. Fine scaling edematous pink red plaques noted on face and right anterolateral neck.

SHARE YOUR INSIGHTS

The authors of this case study are seeking advice and guidance from other dermatologists who have seen or treated patients with a facial rash following dupilumab therapy.

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the manufacturer of dupilumab. We are not aware of this being reported in the literature and believe to be submitting the first reported case to the literature of this issue.

Unfortunately, the condition is continuing to progress after two months. The patient does not want to discontinue dupilumab treatment because of great improvement to the rest of her body. Unsuccessful treatments to date include oral prednisone, fluconazole, and doxycycline. Moreover, topical calcipotriene, oxiconazole, ivermectin, clobetasol, tacrolimus, and moisturizers have not improved her facial symptoms. We have proposed adding methotrexate to her treatment armamentarium, but she is not amenable to that at this time.

Other possible etiologies we have considered by discussion with other colleagues include onset of a new contact dermatitis, onset of an autoimmune condition, and a reaction to commensal organisms, such as pityrosporum.

We present this case to raise clinical awareness of this potential adverse effect. We are also interested to discover if other physicians have seen this issue and how they have treated it. Our patient is extremely frustrated and would like to continue dupilumab. ■

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