

Images in Allergy

Dupilumab-Induced Bilateral Cicatricial Ectropion in Real Life

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Dupilumab, a fully human monoclonal antibody that targets IL-4 receptor- α and inhibits signaling of IL-4 and IL-13, has recently been approved as first-line treatment for moderate-to-severe adult atopic dermatitis (AD).¹ This biological therapy was associated with an increased rate of conjunctivitis in a clinical trial.^{1,2}

A 55-year-old Caucasian man with a long-standing history of AD since childhood started dupilumab treatments after failing to respond to several topical therapies, cyclosporine, and omalizumab. Significant comorbidities included a 32-year history of a mild perennial allergic rhinoconjunctivitis and asthma. His baseline Eczema Area and Severity Index (EASI) score was 25.1, with an Investigator's Static Global Assessment (IGA) of 4 and a Dermatology Life Quality Index (DLQI) score of 15. Dupilumab was administered with a 600-mg loading dose followed by 300-mg dose every 2 weeks for his symptoms. At follow-up, 4 weeks later, conjunctivitis, blepharitis, and dry eyes were observed. The patient was treated with artificial tears and 0.1% topical fluorometholone drops, 3 times a day in both eyes. Halfway through the second month of dupilumab treatment, the patient noticed progressive bilateral ectropion in addition to upper lid shortening. At revaluation after 8 weeks, the patient presented an EASI score

of 12.7, an IGA of 3, a DLQI score of 5, and a peak pruritus Numerical Rating Scale improvement of 4 points. At this time (Figure 1), the patient complained of itching, burning, tearing, and sandy feeling under the eyelids, whereas his best corrected visual acuity was 20/20 in each eye. Slit lamp examination revealed swollen eyelids, severe cicatricial ectropion of both lower eyelids, with severe punctate stenosis and displacement, hyperemic eyelid margins, and a significant conjunctival injection that extended beyond the interpalpebral zone of both eyes.

A treatment with 50 mg of oral prednisolone and 0.1% topical cyclosporine twice a day was administered for 60 consecutive days. Two months after discontinuing dupilumab (Figure 2), the patient's symptoms had substantially improved and examination showed a significant decrease in conjunctival injection, eyelid margin hyperemia, and cicatricial ectropion, with lower eyelids reverted to the pre-dupilumab position.

The efficacy and safety of subcutaneous dupilumab for the treatment of AD has been established in several studies.¹⁻³ However, this monoclonal antibody appears to induce or exacerbate conjunctivitis.⁴ Conjunctivitis was more frequently observed in only AD trial patients, but not in asthma or nasal polyposis trials.² The cause of dupilumab-induced conjunctivitis



FIGURE 1. Severe cicatricial ectropion and hyperemic eyelid margins.



FIGURE 2. Decrease of cicatricial ectropion and eyelid margin hyperemia, with lower eyelids reverted to the pre-dupilumab position.

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is still unclear. In our patient, conjunctivitis was presumably due to exposure resulting from ectropion and to dupilumab treatment. Only Barnes et al⁵ previously reported bilateral cicatricial ectropion associated with dupilumab during a phase III clinical trial. However, unlike that case report, our patient had a history of allergic perennial conjunctivitis. Nevertheless, it is possible that an increased eosinophil count after drug administration, which plays a part in the development of allergic eye disorders, could increase the risk of dupilumab-induced conjunctivitis.⁴⁻⁶

To our knowledge, this case is the first report of cicatricial ectropion in a real-life setting, developing in a patient with AD during dupilumab treatment. We recommend an early ophthalmology referral in cases of eye complications.

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