Prophylactic use of diquafosol eye drops for dupilumab-associated conjunctivitis in patients with severe atopic dermatitis: An open-label prospective study

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Abstract

Background: Dupilumab, a monoclonal antibody that blocks IL-4 receptor alpha, is effective and safe for the treatment of severe atopic dermatitis (AD). Conjunctivitis is one of the most frequently reported adverse events associated with the use of dupilumab. Although the mechanism of conjunctivitis remains unclear, a recent study has suggested that dupilumab may decrease goblet cell (GC) density and mucin production, leading to conjunctivitis. Methods: To investigate the effect of diquafosol, a topical mucin secretagogue, in the prevention of dupilumab-associated conjunctivitis in patients with severe AD. Patients with AD who were treated with dupilumab were randomly assigned to either the control or diquafosol groups. For patients in the diquafosol group, one drop of diquafosol was administered to both eyes 2–6 times per day during the first 3 months after the initiation of dupilumab. The incidence of conjunctivitis was investigated in both groups after 6 months of dupilumab treatment. Results: The incidence of conjunctivitis was significantly lower in the diquafosol group than in the control group (6.6% versus 23.8%, respectively; P=0.005). The severity of conjunctivitis was mostly mild to moderate in both groups. Only one patient in the control group developed severe conjunctivitis and had to discontinue dupilumab treatment. Conclusion: Prophylactic use of diquafosol eye drops can reduce the incidence of dupilumab-associated conjunctivitis in patients with severe AD, suggesting that the use of diquafosol eye drops may be a useful preventive strategy for managing this adverse event.

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