Evaluation of Risk Factors for Dupilumab-Associated Ocular Sequelae in the Treatment of Atopic Dermatitis

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Introduction

- Atopic dermatitis (AD) is a complex immune-driven skin disorder characterized by epidermal dysfunction
- Dupilumab is a monoclonal antibody treatment that inhibits IL-4 and IL-13 signaling
- Treatment with dupilumab yields a positive dermatological response in patients with moderate-to-severe atopic dermatitis and is well-tolerated
- Dupilumab is mainly used in those who fail or cannot tolerate topical treatments
- Ocular sequelae such as conjunctivitis, blepharitis, keratitis, and dry eye syndrome are recognized as potential side effects of dupilumab therapy
- Few studies exist that describe risk factors for developing dupilumab-associated ocular sequelae

Objective

This study aims to highlight the risk factors associated with the development of dupilumab-associated ocular surface disease (DAOSD) described in the literature.

Methods

- PubMed and ScienceDirect databases searched in April 2024 yielding 251 articles
- Key search terms included “dupilumab,” “atopic dermatitis,” “demographics,” “risk factors,” “ocular,” “keratitis,” “conjunctivitis,” “side effects”
- 9 articles included after deduplication, title/abstract screening, full-text review, and quality appraisal
- Inclusion criteria: written in English and discussion of risk factors for ocular side effects of dupilumab
- Exclusion criteria: discussion of other biologic agents or ocular conditions of other origins

Results

Risk Factors (RF) and Recommendations for DAOSD

Discussion

- Potential risk factors for the development of DAOSD emerged in review of past studies
- Prior history of ocular disease is most frequently cited
- Patients treated with dupilumab for atopic dermatitis have higher severity or refractory disease
- Implications on quality of life of patients if treatment is discontinued due to ocular side effects
- Risk stratification when taking initial patient history
- Provider awareness of potential for ocular side effects and patient counseling are starting points
- Additional studies needed to better understand the risk factors for DAOSD and prevent further complications
- Further research: whether severity of atopic dermatitis influences manifestation of DAOSD and prevent further complications
- Additional studies needed to better understand the risk factors for DAOSD and prevent further complications
- Limitations: small sample size and lack of control group in some studies, lack of gender and racial representation in some studies

References