



# Long-Term Discontinuous use of Omalizumab in Severe Seasonal Allergic Keratoconjunctivitis Vernalis

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Received: Mar 23, 2021

Accepted: Apr 14, 2021

Published Online: Apr 16, 2021

Journal: Annals of Pediatrics

Publisher: MedDocs Publishers LLC

Online edition: <http://meddocsonline.org/>

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## Challenge

Vernal Keratoconjunctivitis (VKC) is a severe ocular, chronic, allergic eye disease, characterized by chronic corneoconjunctival inflammation with giant tarsal papillae and/or limbal inflammation. It can result in loss of visual acuity and blindness. For treatment of keratoconjunctivitis topical antihistamines, mast-cell stabilizers, corticosteroids or topical immunosuppressors are prescribed. However, control of ophthalmological symptoms can be challenging and severe adverse events in long-term use especially with systemically applied corticosteroids have to be considered.

Since birth, our patient suffered from severe atopic eczema, multiple seasonal allergies and recurrent corneal ulcerations secondary to severe keratoconjunctivitis vernalis with limbal

and tarsal involvement. Response to standard therapy including sublingual immunotherapy and intraocular steroid injections was limited. Despite, there were increasing visual impairment (visual acuity < 0.6), corneal ulceration, imminent perforation, and risk of blindness.

## Solution

Immunoglobulin E (IgE) antibodies play a central role in acute allergic reactions and chronic inflammatory allergic diseases as well as in allergic rhinitis and keratoconjunctivitis. Omalizumab, a humanized monoclonal anti-IgE antibody is approved for the treatment of severe bronchial allergic asthma and adjunctive therapy in chronic spontaneous urticaria.



**Cite this article:** Hildebrandt J, Keßler A, Knappe S, Fischer DC, Ballmann M. Long-term Discontinuous use of Omalizumab in Severe Seasonal Allergic Keratoconjunctivitis Vernalis. *Ann Pediatr.* 2021; 4(1): 1067.

Thus, we decided for seasonal (February to November) off-label use of Omalizumab (2 x 150 mg subcutaneous every 14 days). Within 2 months of treatment, symptoms resolved nearly completely, and we continued long-term discontinuous seasonal treatment for the last 6 years. To date, symptom control is adequate. There are only mild residual symptoms of keratoconjunctivitis and eczema. The visual acuity could be restored and preserved at 1.0.

### Conclusion

long-term discontinuous application of Omalizumab is a promising option for patients with severe recurring seasonal VKC. It shows rapid effectiveness and helps to restore visual acuity in terms of VKC symptom's control. Our patient showed good tolerance of long-term treatment without any adverse events secondary to omalizumab therapy.



**Figure 1:** Clinical findings at the beginning of Omalizumab therapy with giant papillae (\*) on the upper tarsal conjunctiva and mucous discharge at the inner corner of the eye.



**Figure 2:** Under long-term discontinuous seasonal Omalizumab therapy (February to November) giant papillae on the upper tarsal conjunctiva have diminished completely. All in all, patient shows sufficient control of VKC symptoms.