



## Vernal keratoconjunctivitis

Denis Wakefield and Peter J McCluskey



Vernal keratoconjunctivitis (VKC) (also known as “spring catarrh”) is an uncommon disorder seen in children and young adults. Patients typically present with redness, intense itch, photophobia and watering in both eyes. VKC is characterised by a “cobblestone” appearance of the conjunctiva, seen on everting the upper eyelid. It is sometimes associated with allergic disorders, including allergic rhinitis, atopic dermatitis and asthma.<sup>1,2</sup> It is a chronic disorder with a clinical course of 2–10 years.

**What treatments are available?** Allergen avoidance may be of limited benefit, given the ubiquitous nature of allergens to which patients are sensitive. Symptomatic relief can be obtained by bathing the eyes with cold water or by using icepacks or cold compresses.

Topical antihistamines or combined topical antihistamine/mast cell stabilisers (such as olopatadine or lodoxamide trometamol) are the cornerstones of treatment.<sup>2</sup> Topical lubricants (preferably preservative-free) are also useful to improve the tear film and to help reduce the allergen load. A short course of topical (or even systemic) steroids may be needed to settle severe symptoms.

Other useful therapies include topical non-steroidal anti-inflammatories, oral montelukast, topical cyclosporin (0.05%), sub tarsal steroid injection and/or allergen-specific immunotherapy.<sup>3–5</sup>

**Will it get worse?** VKC is potentially severe, and may be complicated by corneal ulceration, scarring and neovascularisation, with occasional associated visual impairment. Careful slit-lamp examination, measurement of intraocular pressure and assessment for the presence of keratoconus is required. Patients requiring topical or systemic steroids should be assessed by an ophthalmologist, and an allergy specialist should advise on whether allergen-specific interventions are indicated.

**What else could it be?** VKC should be distinguished from other types of allergic eye disease, including allergic rhinoconjunctivitis (seasonal [hayfever] or perennial) and atopic keratoconjunctivitis, which is more commonly seen in adults than children. Seasonal allergic conjunctivitis is characterised by the acute onset of conjunctival injection and conjunctival oedema, with or without lid oedema, after exposure to allergens. Perennial allergic conjunctivitis is a persistent

### Fact or fiction — true or false?

A negative skin prick test to common aeroallergens excludes vernal keratoconjunctivitis (VKC) (T/F)

False. Not all patients with VKC have positive skin prick tests. Non-IgE-mediated inflammatory mechanisms are probably involved in pathogenesis in some cases. ◆

form of allergic conjunctivitis that occurs throughout the year and is triggered by exposure to allergens such as animal dander, dust mite or mould spores. Atopic keratoconjunctivitis is characterised by eyelid inflammation (with or without complicating staphylococcal blepharitis), together with redness of the eyeball, discharge and photophobia, and sometimes the development of cataracts or keratoconus. Ocular examination is normal

between episodes of VKC.<sup>1</sup>

Drug hypersensitivity reactions or chemical exposure can produce acute conjunctivitis similar to VKC, but these conditions can be distinguished from VKC by the patient's history. Giant papillary conjunctivitis is a severe chronic conjunctivitis triggered by exposure to a foreign body such as a suture or a contact lens. Acute uveitis and angle closure glaucoma should be considered in the differential diagnosis for patients presenting with a red eye, but these conditions are usually unilateral, associated with changes in vision, and not itchy.

### Author details

Denis Wakefield, MD, FRACP, FRCPA, Professor of Pathology<sup>1</sup>

Peter J McCluskey, MD, FRACO, FRACS, Professor of Ophthalmology<sup>2</sup>  
1 School of Medical Sciences, University of New South Wales, Sydney, NSW.

2 Liverpool Hospital, Sydney, NSW.

Correspondence: d.wakefield@unsw.edu.au

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Photo courtesy of Kathy McClellan, Safe Sight Institute, University of Sydney.

### Case scenario\*

A 15-year-old male presented to his general practitioner with severe ocular itching, irritation, photophobia and excessive watering of the eyes. He had previously been seen for management of his asthma, atopic dermatitis and intermittent allergic rhinitis. His ocular symptoms, present for the previous 9 months, had worsened significantly during the recent spring season. His vision was unchanged, but he had been wearing sunglasses (even sometimes indoors) because of photophobia. Treatment with topical and systemic antihistamines had given only limited relief.

Examination revealed bilateral conjunctival injection, without evidence of blepharitis or eczema of the face or eyelids. Eversion of the upper eyelids revealed a rough, cobblestone appearance with a thick, tenacious discharge.

The patient was referred to an allergy specialist for further evaluation. Investigation revealed an elevated IgE level of 780 kU/L, with positive skin prick tests to house dust mite and grass pollens. The patient was managed initially with a combination of corticosteroid eye drops, then maintained with topical olopatadine treatment, and dust mite minimisation measures were advised. Regular ophthalmological review failed to show evidence of corneal scarring or visual impairment. Immunotherapy with pollen extract the following year was associated with a dramatic improvement in symptoms, with minimal requirement for additional pharmacological intervention the following spring.

\* This is a fictional case scenario based on similar real-life cases. ◆