

Your quick guide to: Allergy Eye Disease

Many people suffer from allergic conjunctivitis, either seasonally (seasonal allergic conjunctivitis) or all year round (perennial allergic conjunctivitis). The main symptoms are itching, burning, watering and redness of the eye, and puffiness of the eyelids. The cause is exposure to a substance to which a person has become allergic, known as an allergen.

For most of those affected seasonally, these symptoms are part of their hay fever, and the cause is the same. Grass pollens (or other pollens from trees, weeds or shrubs) land on the eye surface and trigger the release of substances such as histamine, which cause the symptoms. The part of the eye that is visible is not the area mainly affected. The cornea (the transparent window of the eye which lies over the coloured iris) is not affected at all, and the surrounding 'white of the eye' is only slightly affected. The part that is not seen directly, a relatively large area that lies beneath the eyelids, is where the reaction mainly takes place.

What is seen under the upper eyelid in allergic conjunctivitis is slight redness (hyperaemia), slight swelling (oedema) of the tissues, and sometimes a little bumpiness (papillary hyperplasia). This lack of major signs, coupled with the typical seasonal history and symptoms, is what helps to distinguish allergic conjunctivitis from other causes of conjunctivitis/inflammation such as infection.

Perennial allergic conjunctivitis is caused in the same way, but is usually a reaction to house dust mite or pets in the indoor environment, rather than to seasonal pollens. In other countries the same condition is caused by different environmental allergens. The allergy tests normally used to identify the trigger of an allergic reaction (skin prick tests and blood tests) are sometimes unhelpful in finding the triggers for allergic conjunctivitis. The correlation between the allergic antibody (IgE) levels in the tears and those in the

blood or skin is limited because most of the IgE found in tears does not come directly from the blood, but from the tear (lacrimal) gland. The equivalent, in the eye, of the skin prick test is the conjunctival provocation test, in which extremely small amounts of allergen are introduced into the tear film, and the effects noted. This is not often done, but it may be helpful in diagnosing some cases of allergic eye disease. In addition to seasonal and perennial allergic conjunctivitis, other much rarer, but very serious allergic eye diseases exist. These are vernal keratoconjunctivitis (VKC), which occurs in some severely allergic children. It seems to be more prevalent in boys and also in those children with severe atopic dermatitis. There is also the adult equivalent, atopic keratoconjunctivitis (AKC). In both of these conditions the cornea is usually involved, affecting and even threatening the sight of the eye, and only an eye specialist (ophthalmologist) is fully equipped to manage them. Some contact lens wearers suffer from a condition called giant papillary conjunctivitis (GPC), which is similar to VKC and AKC, but does not involve the cornea.

Management of allergic eye disease

The first strategy is allergen avoidance, but before allergens can be avoided they must be identified. In many cases the likely triggers can be identified by taking a careful history from the patient. Many allergic people react to common allergens, which are, by definition, difficult to avoid.

Anti-histamine eye drops can be helpful. For drugs that are currently available, a prescription is needed. Oral anti-histamines suit many patients whose eye symptoms coincide with other symptoms of hay fever. Some of these can be bought over-the-counter whilst others require a prescription. Long acting, nonsedating oral antihistamines are recommended for regular use.

Key facts:

The main symptoms are **itching, burning, watering and redness of the eye**, and puffiness of the eyelids.

VKC occurs in some severely allergic children.

It seems to be **more prevalent in boys** and also in those children with severe atopic dermatitis.

Eye drops are best applied with the **head well back**, or when **lying down**

Allergy UK Helpline

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Mast cell stabilisers have been used in eye drop form for many years. The first of these was sodium cromoglicate. The effectiveness and excellent safety record of this has earned it 'gold standard' status in the management of allergic eye disease. A number of manufacturers produce their own versions of this preparation, some of which can be bought without prescription. Other mast cell stabilisers, and compounds that have both mast cell stabilising and anti-histaminic properties (e.g. olopatadine), require prescriptions.

Steroid eye preparations are very effective in allergic eye disease but their unwanted effects can be severe and even sight-threatening. The medical literature includes reports from other countries of children with VKC who have been blinded by steroid eye drops. They should therefore be prescribed only by ophthalmologists, or by optometrists registered as Independent Prescribers, as these are the only two professional groups properly trained and equipped to diagnose and manage these complications.

Non-steroidal anti-inflammatory drugs (NSAIDs) are available in eye drop form, but their place in the management of allergic eye disease is not fully determined.

Immunosuppressive agents are not needed in simple allergic eye disease, but they may be used in the management of VKC and AKC under the guidance of an ophthalmologist. Cyclosporin is one of these, and its beneficial effects have been known for some years, but the lack of a suitable commercial preparation has limited its use. The introduction in October 2018 of a 0.1% ciclosporin eye drop for sustained use, is particularly welcome. It is licensed for use in severe VKC in children from the age of four years to adolescence. We anticipate that the availability of this drug will reduce the need for steroid eye drops, with their potentially severe side effects.

Immunotherapy may help a small number of people whose allergic eye disease is caused by a single allergen, rather than by a number of allergens. By giving very small doses of the allergen at regular intervals for three years or more, either by injection into the skin or by tablets held under the tongue, the body can be desensitized.

In addition to all these active treatments, supportive measures can be very helpful in controlling the symptoms of allergic eye disease. These include cold compresses and artificial tear preparations, some of which are available at pharmacies without prescription. Wraparound sunglasses in the pollen season may also be helpful.

The management of the contact lens-related disease GPC is a specialist area which is best left to optometrists and ophthalmologists.

A note on the use of eye drops: Eye drops are best applied with the head well back, or when lying down. The forefinger of one hand is used to gently pull down on the lower eyelid, creating a small recess into which a drop can be made to fall from the bottle held in the other hand. (The ophthalmologist may sometimes recommend the applying of drops under the upper lid.) Though the instructions provided with the drops may state that one or two drops should be used, only one is necessary. Indeed the use of more than one drop may be counterproductive. It is important that the top of the bottle (or dropper) should not touch the eye, or the lashes, lids, face or fingers. The hands should be washed before and after use of eye drops. Once opened, the drops should be kept in a cool place (such as in the door of the fridge) and thrown away when they expire (usually one month later). It is not safe to use eye drops that have been open for longer than the recommended time. Some eye drops come in single dose units; they should never be re-used. Eye drops should never be shared with another person.

Clinical contributions

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