CONDITION

Vernal conjunctivitis

Vernal conjunctivitis is a recurring allergic inflammation that can affect the eye surface and cornea.

WHAT IT IS
Chronic allergic inflammation of the eye surface

BODY SYSTEM
Eyes and immune system

MAIN SYMPTOMS
Intense itching, redness, stringy mucus, light sensitivity

WHAT CAUSES IT
Overactive immune response to environmental triggers

HOW IT IS DIAGNOSED
Slit-lamp eye examination with upper-lid eversion

MAIN TREATMENT
Anti-allergy drops and specialist-supervised anti-inflammatory medicines

CAN IT BE CURED?
No - often settles after puberty

IS IT AN EMERGENCY?
Sometimes - eye pain or reduced vision needs urgent assessment

LONG-TERM OUTLOOK
Usually improves by adulthood, but corneal damage can occur

Overview

Vernal conjunctivitis is a long-lasting, recurring form of allergic eye inflammation. Its full medical name is vernal keratoconjunctivitis , often shortened to VKC. "Kerato" means that the cornea-the clear window at the front of the eye-can also become inflamed.

The condition usually begins during childhood. It often causes flares during spring or warm weather, which is why it is called "vernal." However, symptoms may occur in other seasons or continue throughout the year.

Vernal conjunctivitis is more severe than ordinary hay-fever conjunctivitis. The inflammation can produce thick mucus and changes under the upper eyelid. It may also damage the cornea if it is not controlled.

It is not an infection and cannot spread from one person to another. With suitable follow-up and treatment, inflammation can usually be controlled and lasting eye damage avoided.

Symptoms

Vernal conjunctivitis usually affects both eyes, although one eye may be worse. Symptoms may build gradually or become more noticeable during a seasonal flare.

Common symptoms include:

Itching is a particularly typical feature. Frequent rubbing may briefly feel helpful, but it can worsen irritation and may contribute to corneal problems.

A clinician may find large, raised bumps under the upper eyelid. These are called giant papillae and are sometimes described as having a cobblestone appearance. Small white inflammatory spots can also develop around the edge of the cornea.

Eye pain, strong light sensitivity or reduced vision is not typical of a mild allergy. These symptoms can mean that the cornea has been affected and need prompt assessment.

- Intense eye itching
- Red or bloodshot eyes
- Thick, sticky or stringy mucus
- Watering
- Burning or a gritty feeling
- Swollen or heavy eyelids
- Sensitivity to light
- Blurred vision, especially when the cornea is involved

Causes and risk factors

Vernal conjunctivitis results from an overactive immune response on the surface of the eye. Several parts of the immune system are involved, so it is more complex than a simple pollen allergy.

Possible triggers include pollen, grass, dust, wind and hot or dry weather. A specific trigger is not always found. Some people have symptoms all year, particularly in warm climates.

The condition is more likely in children who also have other allergic conditions, such as:

It is seen more often in boys during childhood, although girls and adults can also be affected. The difference between sexes becomes less marked after puberty.

Vernal conjunctivitis is not caused by poor hygiene. It is not caused by bacteria or viruses, although another eye condition can occur at the same time.

- Asthma
- Eczema
- Hay fever
- Allergies affecting close family members

Diagnosis

Diagnosis is usually based on your symptoms and a detailed eye examination. There is no single blood test or allergy test that confirms vernal conjunctivitis.

An eye specialist may examine the eyes with a slit lamp , a microscope fitted with a bright light. This allows the conjunctiva and cornea to be viewed in detail. The upper eyelid may be gently turned over to look for giant papillae.

The examination also checks for scratches, ulcers or other damage to the cornea. A harmless dye called fluorescein may be placed in the eye to make damaged areas easier to see under blue light.

Allergy testing is not routinely needed to make the diagnosis. It may sometimes be considered when identifying a trigger could help manage other allergic symptoms.

Other causes of a red or irritated eye may need to be ruled out. These include ordinary allergic conjunctivitis, dry eye, eyelid inflammation, infection and reactions to contact lenses or medicines.

Treatment and management

Treatment aims to ease symptoms, suppress inflammation and protect the cornea. The approach is based on how severe the inflammation is and whether the cornea is involved.

Cold compresses can reduce itching and swelling. Preservative-free artificial tears may wash allergens and mucus from the eye while soothing the surface. Avoid rubbing your eyes, even when the itching is strong.

Anti-allergy eye drops are often used for ongoing control. These may combine an

antihistamine like cetirizine or loratadine , which reduces an allergic reaction, with a mast-cell stabiliser, which helps prevent immune cells from releasing inflammatory chemicals. Regular use during a person's usual flare season may work better than waiting until symptoms are severe.

Oral antihistamines may help if you also have hay fever or other allergy symptoms. They are not usually the main treatment for significant eye inflammation and can sometimes make the eyes feel drier.

More severe inflammation may require prescription anti-inflammatory treatment from an eye specialist. Options can include:

Corticosteroid drops can control inflammation quickly, but they require close supervision. Prolonged or inappropriate use can raise pressure inside the eye, contribute to cataracts and make some infections worse. Do not use old, borrowed or non-prescribed steroid eye drops.

Ciclosporin and tacrolimus reduce immune activity and may be used when symptoms are persistent or steroid treatment needs to be limited. They can cause temporary stinging or burning.

Severe corneal disease, including a shield ulcer, needs specialist treatment. A shield ulcer is an area where the corneal surface has broken down beneath thick inflammatory material. Treatment focuses on controlling inflammation and helping the surface heal; a procedure is occasionally needed to remove material that is preventing healing.

"Redness relief" drops that narrow blood vessels do not treat the underlying inflammation. Frequent use may cause rebound redness.

- A short course of corticosteroid eye drops
- Ciclosporin eye drops
- Tacrolimus applied to the eye area in specialist care

Complications

Most complications involve the cornea. Ongoing inflammation and rubbing can damage its smooth outer layer, causing pain, light sensitivity and blurred vision.

Possible complications include:

Keratoconus is a condition in which the cornea becomes thinner and bulges forward. Vigorous, repeated eye rubbing is associated with its development and progression.

Treatment can also cause complications. In particular, unsupervised or prolonged corticosteroid use may increase eye pressure and lead to glaucoma, damage the lens and

cause a cataract, or allow an infection to worsen. Eye-pressure checks are therefore an important part of follow-up when steroid drops are used.

- Small scratches or areas of surface breakdown
- Shield ulcers
- Corneal infection
- Scarring that affects vision
- An irregular corneal shape, including keratoconus
- Lasting visual impairment in severe, poorly controlled cases

Prevention

The underlying immune tendency cannot currently be prevented. Having vernal conjunctivitis is not a result of anything you or your family did.

Reducing exposure to known triggers may lessen some flares. Helpful steps can include keeping windows closed when pollen levels are high, wearing wraparound sunglasses outdoors and washing your face after outdoor activity. Avoiding smoke, dust and direct airflow from fans may also reduce irritation.

Cold compresses, artificial tears and prescribed preventive drops may help during a known flare season. Follow the plan given by your eye-care team rather than restarting old prescription medicines on your own.

Avoid rubbing your eyes. Keeping fingernails short may help children who rub while asleep or without noticing.

Living with it and what to expect

Vernal conjunctivitis often follows a pattern of flares and quieter periods over several years. Symptoms may return in the same season, although some people have year-round inflammation.

Many children improve during the later teenage years or early adulthood. This is not guaranteed, and a smaller number continue to have symptoms as adults. Improvement after puberty does not reverse corneal scarring that has already formed.

During a flare, itching, mucus and light sensitivity can interfere with reading, school, sports and sleep. Sunglasses, cold compresses and access to prescribed drops may make everyday

activities easier. Teachers or caregivers may need to understand that light sensitivity and blurred vision are physical symptoms rather than avoidance of work.

Routine eye appointments are important when symptoms are recurring, the cornea has previously been affected or prescription anti-inflammatory drops are being used. These visits allow the cornea, vision and pressure inside the eye to be checked.

Contact lenses can worsen discomfort during active inflammation and may increase concern about infection. You may need to stop wearing them during a flare and wait for advice before restarting.

When to get medical help

Arrange a routine appointment if you have recurring intense itching, thick mucus or symptoms that do not settle with usual allergy care. Children with repeated seasonal eye symptoms should be examined rather than relying only on over-the-counter redness drops.

Seek urgent, same-day eye care if you develop:

Sudden major loss of vision needs emergency assessment. Chemical exposure or a significant eye injury is also an emergency, whether or not you have vernal conjunctivitis.

- Eye pain rather than mild itching or burning
- New or worsening blurred vision
- Strong sensitivity to light
- Difficulty opening the eye
- A white or cloudy spot on the cornea
- A red, painful eye while wearing contact lenses
- Symptoms that worsen while using prescribed treatment

Common questions

Is vernal conjunctivitis contagious?

No. It is caused by inflammation linked to the immune system, not by an infection. It cannot be passed through touch, towels, swimming pools or close contact.

Why does it get worse in spring?

Pollen and other seasonal allergens may trigger inflammation. Heat, wind and dust may also

contribute. Despite its name, vernal conjunctivitis can flare at any time or remain active throughout the year.

Will vernal conjunctivitis go away after puberty?

It often becomes less active during the late teenage years or early adulthood. Some people continue to have symptoms later, so ongoing eye checks may still be needed. Any existing corneal scar may remain after the inflammation settles.

Can vernal conjunctivitis damage my eyesight?

It can if severe inflammation damages or scars the cornea. Most people can avoid lasting visual problems when corneal symptoms are recognised promptly and inflammation is properly controlled.

Can I wear contact lenses during a flare?

Contact lenses are usually best avoided while the eyes are red, painful, producing mucus or being treated for active inflammation. A red or painful eye in a contact-lens wearer needs prompt assessment because infection must be ruled out.

Why should I not use steroid eye drops on my own?

Steroid drops can cause glaucoma or cataracts and may make an eye infection worse. They are useful for some severe flares, but an eye specialist should supervise their use and monitor eye pressure.

Sources

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