



## Eye care – infection or allergy?

Fae Farrer, BPharm

Conjunctivitis is a common and treatable eye condition. It is often called “pink eye” due to the reddening and inflammation of the conjunctiva.<sup>1,2</sup>

### Causes of conjunctivitis

The conjunctiva is the lining covering the white surface of the eye and the inner folds of the eyelids. It is a protective barrier for the eye and is rich in blood vessels. Tear glands are found in the upper, outer parts of the eye, producing tears which moisturise and clean the eyes.<sup>3</sup>

Conjunctivitis can be caused by viruses, bacteria, allergens such as pet dander or pollens, and irritants such as chemicals, shampoos, dirt and smoke. Conjunctivitis caused by bacteria and viral agents can be spread from person to person. However, allergic conjunctivitis is not contagious.<sup>1,2</sup>

Viral conjunctivitis is highly contagious as airborne viral agents can be spread by sneezing and coughing. It may also be associated with general viral infections such as measles, colds or flu. Viral conjunctivitis will usually clear within a short time.<sup>2</sup>

Bacterial conjunctivitis may be caused by bacteria such as *Staphylococcus aureus*, *Haemophilus influenzae*, *Streptococcus pneumoniae*, and *Pseudomonas aeruginosa*. Antibiotic treatment is required and it may take one to two weeks to clear the infection.<sup>2</sup>

Allergic conjunctivitis occurs when a person with an allergy is exposed to that allergen. Their body reacts and histamine is released producing allergy symptoms. These may include sneezing, itching, runny nose and itchy, watery eyes. Allergic

conjunctivitis may be caused by any airborne allergens that irritate the conjunctiva. Common allergens include dog and cat hairs (dander); grass, tree and weed pollens; dust mites and moulds.<sup>3,4</sup>

Allergic conjunctivitis may be further categorised:

- Acute allergic conjunctivitis is a sudden allergic reaction when a person comes into contact with an allergen such as cat dander. Symptoms may include severe itching, redness, tearing and swelling of the eyelids. Symptoms usually resolve within 24 hours if the person can remove themselves from the allergen.
- Seasonal allergic conjunctivitis (often called hay fever) is experienced by patients who have sensitivities to seasonal pollens. Symptoms are often milder than acute allergies but last longer.
- Perennial allergic conjunctivitis is a mild, chronic conjunctivitis caused year-round by environmental allergens such as dust mites, animal dander and moulds. However, pollen may also be a possible cause as the pollen season lasts longer in many areas.

People with allergic conjunctivitis often have a history of other allergic conditions such as eczema, hay fever or asthma.<sup>3,4</sup>

### Symptoms

Symptoms of allergic or infectious conjunctivitis are similar, but there are some significant differences. Table I lists the symptoms and indicates whether they are allergic or a sign of infection.

The quality of the discharge is the best indicator of whether the eye problem is due to an allergy or infection. If there is pain associated with any discharge thicker than tears, the problem is more likely to be an infection (usually bacterial).<sup>5</sup>

### Treatment

Viral conjunctivitis typically lasts four to seven days and is highly contagious. Treatment is symptomatic. Cold compresses as well as ocular lubricants such as artificial tears may be useful.<sup>1,5</sup>

**Table I.** Symptoms of conjunctivitis<sup>2,4,5</sup>

| Symptom                            | Allergies | Infections  |
|------------------------------------|-----------|-------------|
| Redness                            | X         | X           |
| Itching                            | X         | X           |
| Burning                            | X         | X           |
| Clear, watery discharge            | X         | X           |
| Pain                               |           | X           |
| Gritty feeling in eyes             | X         | X           |
| Sensitivity to light               | X         | X           |
| Thick discharge                    |           | X Bacterial |
| Mucus-like discharge               |           | X Viral     |
| Both eyes affected                 | X         |             |
| Starts in one eye, spreads to both |           | X           |

Bacterial infections of the eyes are best treated with antibiotic preparations. A doctor must diagnose the problem and prescribe the required medication.<sup>1,2,5</sup>

The best treatment of allergic conjunctivitis is avoidance of the allergen. However, this is not always practical and several preparations are available to treat allergic conjunctivitis.

- Topical decongestants reduce redness by constricting blood vessels in the eyes. This medication is not recommended for long-term use as rebound congestion may occur and the symptoms may worsen. Examples include: oxymetazoline and tetrahydrozoline.<sup>3,6</sup>
- Topical antihistamines reduce swelling, redness and itching by blocking the actions of histamine in the conjunctiva. Products include emedastine and epinastine.<sup>2, 3, 4, 6</sup>
- Mast cell stabilisers prevent histamine from being released. These products are used in the prevention of symptoms and are used prophylactically, for long-term prevention of seasonal or perennial symptoms. These products may have a slow onset of action. Examples include: sodium cromoglycate and lodoxamide.<sup>2,3,6</sup> Olopatadine has both antihistaminic and mast-cell stabilising effects.<sup>7</sup>

Oral antihistamines may be useful, particularly if the patient experiences other allergy symptoms.<sup>3,4</sup>

Nonsteroidal anti-inflammatory drugs (NSAIDs) are useful in treating itchy eyes. Corticosteroid preparations may be used to relieve severe inflammation but must be prescribed by a doctor.<sup>2,3,4</sup>

Artificial tears and ocular lubricants provide a barrier function in the eye. These help to dilute allergens as well as flushing any irritants from the ocular surface.<sup>1,2</sup>

There are some home-care steps that may be taken to relieve or prevent symptoms of conjunctivitis from worsening. These include:

- Apply cool compresses to the eyes.
- Wear sunglasses to decrease light sensitivity.
- Use saline to wash the eyes after being outdoors.
- Contact lenses should be removed if necessary to reduce irritation. Patients with infections should clean their lenses thoroughly, or discard them as recommended if they

are of the disposable type. Glasses should be worn for the duration of an infection, and for a further few days.

- Avoid rubbing the eyes as this increases redness, and may spread infection from one eye to the other.
- Minimise exposure to allergens where possible.
- Avoid eye make-up and do not share make-up with other people.
- Avoid sharing face-cloths or towels.
- Wash hands often, especially before applying eye preparations.<sup>1,2,3,4,5</sup>

### When to consult a doctor

Patients should be referred to a doctor if an infection is suspected. The presence of a thicker discharge or one that is not clear is an indicator of infection. Eye pain or extreme redness should be referred to a doctor. If home care and over-the-counter treatments have not managed the problem, the patient should be referred to the doctor.<sup>1,3,4</sup>

### Conclusion

From the moment you wake up, your eyes are exposed to the environment. Natural defences such as tears help to prevent irritations. When this line of defence is broken, allergies and infections may develop. Understanding and recognising symptoms will help to manage these problems. Allergic patients may be able to prevent allergic eye situations. Severe eye problems must be referred to a doctor to diagnose the condition and prevent possible damage to the eyes.<sup>3</sup>

### References

1. Conjunctivitis (Pinkeye). WebMD. [Internet] [Reviewed 5 Jul 2017, cited 7 Aug 2017] Available from: [www.webmd.com/eye-health-conjunctivitis](http://www.webmd.com/eye-health-conjunctivitis)
2. Hadrill M. Conjunctivitis: Bacterial, viral, allergic and other types. AllAboutVision. [Internet] [Updated Nov 2016, cited 7 Aug 2017] Available from: [www.allaboutvision.com/conditions/conjunctivitis-types.htm](http://www.allaboutvision.com/conditions/conjunctivitis-types.htm)
3. Woody JR. Eye allergy. MedicineNet. [Internet] [Reviewed 24 Mar 2017, cited 7 Aug 2017] Available from: [www.medicinenet.com/eye\\_allergy/article.htm](http://www.medicinenet.com/eye_allergy/article.htm)
4. Eye allergy. AAAAI. [Internet] [Cited 7 Aug 2017] Available from: [www.aaaai.org/conditions-and-treatments/allergies/eye-allergy](http://www.aaaai.org/conditions-and-treatments/allergies/eye-allergy)
5. Gans R. Itchy, red eyes? How to tell if it's allergy or infection. Cleveland Clinic. [Internet] [ 9 Nov 2016, cited 7 Aug 2017] Available from: <https://health.clevelandclinic.org/2016/11/itchy-red-eyes-how-to-tell-if-its-allergy-or-infection>
6. Snyman JR (editor). MIMS. June 2016;56(5). MPASA.
7. Rossiter D. South African Medicines Formulary. 12<sup>th</sup> Edition. 2016.