



The role of olopatadine eye drops in the management of allergic conjunctivitis

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Allergic conjunctivitis

Conjunctivitis is defined as inflammation of the thin membrane that covers the white of the eyes and lines the eyelids (conjunctiva) (Figure 1). There are several potential causes of conjunctivitis, for example, bacterial or viral infections, allergies or nonspecific conditions such as a foreign body in the eye (for example, an eyelash or dust).

Inflammation of the conjunctiva caused by an allergic reaction is known as allergic conjunctivitis or ocular (eye) allergy. Up to 40% of the population is affected by allergic conjunctivitis.

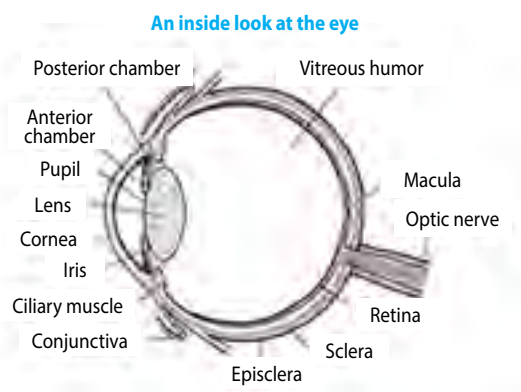


Figure 1: An inside look of the eye. From the MSD Manual Consumer Version (Known as the Merck Manual in the US and Canada and the MSD Manual in the rest of the world), edited by Robert Porter. Copyright (2021) by Merck Sharp & Dohme Corp., a subsidiary of Merck & Co., Inc, Kenilworth, NJ. Available at <http://www.msmanuals.com/home>. Accessed 26 Jan 2021.

The allergic reaction

An allergic reaction occurs when the immune system overreacts to usually harmless substances, known as allergens (e.g. pollen). The conjunctiva contains a large number of cells from the immune system, called mast cells. These cells release chemicals when airborne allergens come into contact with the surface of the eye in a person who is allergic to those specific allergens. These chemical substances are also known as mediators. The release of these mediators causes the conjunctiva to become inflamed.

Signs and symptoms

Symptoms of allergic conjunctivitis include itching, redness, tearing (watery, ropy or stringy discharge), burning and swelling of eyelids. Histamine is the main mediator released in the immediate response to allergens and is, to a large degree, responsible for the initial symptoms.

Typically, both eyes are affected equally. However, sometimes one eye may be more affected than the other. Other signs and symptoms include mild photophobia (sensitivity to light) and crusting of the eyes upon awakening.

Allergic conjunctivitis is often associated with allergic rhinitis (an itchy, runny nose) or other allergic conditions such as asthma or eczema. Depending on the type of allergen, symptoms may occur suddenly, seasonally or may be present year-round (perennial) (Table I).

Non-pharmacological management measures

Allergen avoidance or limiting contact with known allergens plays a critical role in the effective management of allergic conjunctivitis. General measures during peak pollen seasons include (when possible):

- Limiting outdoor activities or exposures
- Staying indoors
- Using air conditioners
- Keeping car and home windows closed

Table 1: Types of allergic conjunctivitis

Type	Symptoms	Occurrence and common triggers
Acute	Develop rapidly (within 30 minutes) Symptoms: • May be intense • Usually clear within 24 hours after the allergen has been removed	Occurs when a person encounters a known allergen, for example, cat dander
Seasonal	Symptoms: • Starts more gradually (over days to weeks) • Are milder, but more persistent	Occurs during a particular pollen season(s) Caused by seasonal allergens, for example, grass, tree or weed pollens
Perennial	Mild, chronic form Symptoms may wax and wane	Occurs year-round Related to year-round environmental allergens such as animal dander, dust mites and moulds

People with allergic conjunctivitis should also be educated about general eye care. They should be informed to:

- Avoid excessive rubbing of their eyes, since rubbing may worsen symptoms (rubbing can cause mechanical mast cell degranulation).
- Use cool compresses which may help to reduce swelling of the eyelids.
- Instil refrigerated artificial tears frequently throughout the day. The frequent use of artificial tears provides lubrication and may help to dilute and remove allergens. Preservative-free eye drops are available for patients who suffer from severe dry eyes and for patients who are allergic to preservatives. Some people may prefer to use lubricant ointments that provide longer-lasting relief. However, ointments may cause temporary blurring of the vision, and as a result, patients often opt to use them at bedtime.

The role of Patanol® in the management of allergic conjunctivitis

Patanol® is used to treat itchy eyes due to allergic conjunctivitis. The active ingredient in Patanol® is olopatadine. Olopatadine belongs to a group of medicines called antihistamines with mast cell stabilising properties.

How does olopatadine work?

Antihistamines with mast cell stabilising properties have two main actions:

- As antihistamines, they counter the effect of histamine which has already been released.
- As mast cell stabilisers, they prevent mast cells from breaking down and releasing chemical substances responsible for the allergic reaction.

Dosage and directions for use

Patanol® may be used in paediatric patients at the same dosage as in adults.

Directions for use

One drop should be instilled, twice a day, in the conjunctival sac of the affected eye(s). After instilling the drop, the patient should close his/her eyelid(s) for a few seconds as this helps with absorption into the ocular tissue. Repetitive or excessive blinking should, however, be avoided as this may cause topical medications to be washed out of the ocular surface more quickly.

Preventing contamination

Care should be taken not to touch the eyelids, other areas near the eyes or other surfaces with the tip of the bottle. When not in use, ensure that the bottle is kept tightly closed.

Side effects and special precautions

Side effects

Olopatadine is usually well tolerated. However, some people may experience a burning or stinging sensation in the eye(s) shortly after the drop has been instilled.

Concomitant use with other topical ocular medicine

People who need to instil more than one eyedrop (for example olopatadine and artificial tears) should be advised to allow an interval of at least five minutes between sequential applications. This will help to prevent the drop instilled first from being washed out by the second drop.

Ability to drive or use machines

Temporary blurred vision or other visual disturbances may occur after the use of olopatadine eye drops. This may affect the ability to drive or use machines. Consequently, individuals whose vision is affected should be informed not to use machinery or drive until vision clears.

Warnings

Eyedrops containing preservatives

Patanol® contains a preservative called benzalkonium chloride which could cause eye irritation, especially with frequent use or if absorbed by soft contact lenses.

People wearing contact lenses

Allergens have a tendency to adhere to contact lens surfaces. As a general measure, people wearing contact lenses should reduce or stop wearing contact lenses during symptomatic pollen periods (contact lens 'holiday'). Alternatively, daily disposable lenses may be considered.

In addition, people wearing contact lenses should be informed not to wear contact lenses when olopatadine eye drops are instilled. They should wait at least 10 minutes before putting contact lenses back in.

Special considerations and when to refer patients

Ocular itch is a prominent symptom of allergic conjunctivitis and the absence thereof should prompt the consideration of other eye disorders. It is also important to note that not everyone with a red eye has allergic conjunctivitis. There are many other potential causes of red eyes.

Referral to an ophthalmologist for further evaluation is necessary if the patient experiences signs or symptoms indicative of a more serious problem, for example:

- Ocular (eye) pain
- Visual impairment (trouble seeing clearly)
- Photophobia (sensitivity to light)
- Severe foreign body sensation that makes it difficult to keep the eye open
- Severe headache with nausea
- Recent trauma to the eye
- Corneal opacity (this is when the cornea [the transparent structure on the front of the eyeball] appears white or clouded over)
- Fixed pupil

Conclusion

The identification and avoidance of allergens as well as non-pharmacological measures play an important role in the management of allergic conjunctivitis.

Most of the eye drops containing antihistamines with mast cell stabilising properties start to work within minutes. However, it

may take a bit longer, up to two weeks, for the inflammation to be controlled and for maximum symptom relief.

Referral to an ophthalmologist is necessary if the symptoms do not clear after two to three weeks of continuous treatment with an antihistamine with mast cell stabilising properties.

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