

# Respiratory Disorders II

## Allergic Rhinitis

The symptoms of allergic rhinitis occur after an inflammatory response involving the release of histamine, which is initiated by allergens being deposited on the nasal mucosa. Allergens responsible for seasonal allergic rhinitis include grass pollens, tree pollens and fungal mould spores. Perennial allergic rhinitis occurs when symptoms are present all year round and is commonly caused by the house dust mite, animal dander and feathers. Some patients may suffer from perennial rhinitis, which becomes worse in the summer months.

### Patient assessment

#### A- Age

Symptoms of allergic rhinitis may start at any age, although its onset is more common in children and young adults (the condition is most common in those in their twenties and thirties). There is frequently a family history of atopy in allergic rhinitis sufferers. Thus, children of allergic rhinitis sufferers are more likely to have the condition. The condition often improves or resolves as the child gets older. The age of the patient must be taken into account if any medication is to be recommended.

#### B- Duration

Sufferers will often present with seasonal rhinitis as soon as the pollen count becomes high.

A useful classification of allergic rhinitis is:

*Intermittent.* Occurs less than 4 days/week or for less than 4 weeks

*Persistent.* Occurs more than 4 days/week and for more than 4 weeks

*Mild.* All of the following – normal sleep; normal daily activities, sport, leisure; normal work and school; symptoms not troublesome

*Moderate.* One or more of the following – abnormal sleep; impairment of daily activities, sport, leisure; problems caused at work or school; troublesome symptoms

#### C- Symptoms

##### *Rhinorrhoea*

A runny nose is a commonly experienced symptom of allergic rhinitis. The discharge is often thin, clear and watery, but can change to a thicker, coloured, purulent one. This suggests a secondary infection, although the treatment for allergic rhinitis is not altered. There is no need for antibiotic treatment.

### ***Nasal congestion***

The inflammatory response caused by the allergen produces vasodilatation of the nasal blood vessels and so results in nasal congestion. Severe congestion may result in headache and occasionally earache. Secondary infection such as otitis media and sinusitis can occur.

### ***Nasal itching***

Nasal itching commonly occurs. Irritation is sometimes experienced on the roof of the mouth.

### ***Eye symptoms***

The eyes may be itchy and also watery; it is thought these symptoms are a result of tear duct congestion and also a direct effect of pollen grains being caught in the eye, setting off a local inflammatory response. Irritation of the nose by pollen probably contributes to eye symptoms too. People who suffer severe symptoms of allergic rhinitis may be hypersensitive to bright light (photophobic) and find that wearing dark glasses is helpful.

### ***Sneezing***

In hay fever the allergic response usually starts with symptoms of sneezing, then rhinorrhoea, progressing to nasal congestion. Classically, symptoms of hay fever are more severe in the morning and in the evening. This is because pollen rises during the day after being released in the morning and then settles at night. Patients may also describe a worsening of the condition on windy days as pollen is scattered, and a reduction in symptoms when it rains, or after rain, as the pollen clears. Conversely, in those allergic to fungal mould spores the symptoms worsen in damp weather.

## **D- Previous history**

There is commonly a history of hay fever going back over several years. Perennial rhinitis can usually be distinguished from seasonal rhinitis by questioning about the timing and the occurrence of symptoms. People who have had hay fever before will often consult the pharmacist when symptoms are exacerbated in the summer months.

## **E- Danger symptoms/ associated conditions**

When associated symptoms such as tightness of the chest, wheezing, shortness of breath or coughing are present, immediate referral is advised. These symptoms may herald the onset of an asthmatic attack.

### ***Wheezing***

Difficulty with breathing, possibly with a cough, suggests an asthmatic attack. Some sufferers experience asthma attacks only during the hay fever season (seasonal asthma). These episodes can be quite severe and require referral. Seasonal asthmatics often do not have appropriate medication at hand as their attacks occur so infrequently, which puts them at greater risk.

### ***Earache and facial pain***

As with colds and flu, allergic rhinitis can be complicated by secondary bacterial infection in the middle ear (otitis media) or the sinuses (sinusitis). Both these conditions cause persisting severe pain.

### ***Purulent conjunctivitis***

Irritated watery eyes are a common accompaniment to allergic rhinitis. Occasionally, this allergic conjunctivitis is complicated by a secondary infection. When this occurs, the eyes become more painful (gritty sensation) and redder, and the discharge changes from being clear and watery to coloured and sticky (purulent). Referral is needed.

## **F- Medication History**

It would be useful to know if any medicines have been tried already to treat the symptoms, especially where there is a previous history of allergic rhinitis. Potential interactions between prescribed medication and antihistamines can therefore be identified.

### **When to refer**

Wheezing and shortness of breath

Tightness of chest

Painful ear

Painful sinuses

Purulent conjunctivitis

Failed medication

### **Treatment Timescale**

Improvement in symptoms should occur within a few days. If no improvement is noted after 5 days, the patient might be referred to the doctor for other therapy.

## **Management**

### **A- Antihistamines**

Many pharmacists would consider these drugs to be the first-line treatment for mild to moderate and intermittent symptoms of allergic rhinitis. They are effective in reducing sneezing and rhinorrhoea, less so in reducing nasal congestion. Non-sedating antihistamines available OTC include *acrivastine*, *cetirizine* and *loratadine*. All are effective in reducing the troublesome symptoms of hay fever and have the advantage of causing less sedation than some of the older antihistamines.

### **B- Decongestants**

Oral or topical decongestants may be used short term to reduce nasal congestion alone or in combination with an antihistamine. They can be useful in patients starting to use a preventer such as a nasal corticosteroid (e.g. *beclometasone*) or *sodium cromoglicate* where congestion can prevent the drug from reaching the nasal mucosa.

### **C- Steroid nasal sprays**

*Beclometasone nasal spray* (aqueous pump rather than aerosol version) and *fluticasone metered nasal spray* can be used for the treatment of seasonal allergic rhinitis.

A steroid nasal spray is the treatment of choice for moderate to severe nasal symptoms that are continuous. The steroid acts to reduce inflammation that has occurred as a result of the allergen's action. Regular use is essential for full benefit to be obtained and treatment should be continued throughout the hay fever season. If symptoms of hay fever are already present, the patient needs to know that it is likely to take several days before the full treatment effect is reached.

Dryness and irritation of the nose and throat as well as nosebleeds have occasionally been reported; otherwise side-effects are rare. *Beclometasone* and *fluticasone nasal sprays* can be used in patients over 18 years of age for up to 3 months. They should not be recommended for pregnant women or for anyone with glaucoma.

### **D- Sodium cromoglicate**

*Sodium cromoglicate* is available OTC as nasal drops or sprays and as eye drops. *Cromoglicate* can be effective as a *prophylactic* if used correctly. It should be started at least 1 week before the hay fever season is likely to begin and then used continuously.

*Cromoglicate eye drops* are effective for the treatment of eye symptoms that are not controlled by antihistamines.

### **E- Topical antihistamines**

#### ***Nasal treatments***

*Azelastine* is a nasal spray used in allergic rhinitis. The *BNF* suggests that treatment should begin 2–3 weeks before the start of the hay fever season.

## **Sore Throat**

Most sore throats that present in the pharmacy will be caused by viral infection (90%), with only 1 in 10 being due to bacterial infection, so treatment with antibiotics is unnecessary in most cases. Clinically it is almost impossible to differentiate between the two. The majority of infections are self-limiting. Sore throats are often associated with other symptoms of a cold. Once the pharmacist has excluded more serious conditions, an appropriate OTC medicine can be recommended.

### **Patient assessment with sore throat**

#### **A-Age:**

Although viral causes are the most common cause, streptococcal infections are more prevalent in people under the age of 30, particularly those of school age (5–10 years) and young adults (15–25 years old)

#### **B-Duration:**

Most sore throats are self-limiting and will be better within 7–10 days. If it has been present for longer, then the patient should be referred to the doctor for further advice.

#### **C- Severity:**

If the sore throat is described **as extremely painful**, especially in the absence of cold, cough or catarrhal symptoms, **then referral** should be recommended if there is no improvement within 2–48 hours.

#### **D-Previous history:**

Recurrent bouts of infection (tonsillitis) would mean that referral is best. Smoking will exacerbate a sore throat.

#### **E-Associated symptoms:**

##### **Hoarseness**

Hoarseness is caused when there is inflammation of the vocal cords in the larynx (laryngitis). Laryngitis is typically caused by a self-limiting viral infection. It is usually associated with a sore throat and a hoarse, diminished voice. Antibiotics are of no value, and symptomatic advice, which includes resting the voice, should be given. The infection usually settles within a few days and referral is not necessary. When hoarseness persists for more than 3 weeks, especially when it is not associated with an acute infection, referral is necessary.

## **Dysphagia**

Difficulty in swallowing can occur in severe throat infection. It can happen when an abscess develops in the region of the tonsils (quinsy) as a complication of tonsillitis. Most bad sore throats will cause discomfort on swallowing, but not true difficulty and do not necessarily need referral unless there are other reasons for concern. Dysphagia, when not associated with a sore throat, always needs referral.

## **Appearance of throat**

It is commonly thought that the presence of white spots, exudates or pus on the tonsils is an indication for referral or a means of differentiating between viral and bacterial infection, but this is not always so. Unfortunately, the appearance can be the same in both types of infection and sometimes the throat can appear almost normal without exudates in a streptococcal (bacterial) infection.

### ***Thrush***

An exception not to be forgotten is candidal (thrush) infection that produces white plaques. However, these are rarely confined to the throat alone and are most commonly seen in babies or the very elderly. It is an unusual infection in young adults and may be associated with more serious disorders that interfere with the body's immune system, e.g. leukaemia, HIV and acquired immune deficiency syndrome (AIDS), or with immunosuppressive therapy (e.g. steroids). The plaques may be seen in the throat and on the gums and tongue. When they are scraped off, the surface is raw and inflamed. Referral is advised if thrush is suspected and the throat is sore and painful.

### **F- Present medications:**

- A rare complication of certain medication is agranulocytosis (suppression of WBC production in the bone marrow) which can manifest as fever, sore throat, and ulceration. The patient will probably present with signs of infection, including fever and chills. Examples of drugs that cause this adverse event are: [Captopril, carbimazole, cytotoxics, pencillamine, sulfasalazine, neuroleptics e.g. clozapin].
- Steroid inhalers (e.g. *beclometasone* or *budesonide*) can cause hoarseness and candidal infections of the throat and mouth. Generally, they tend to do this at high doses. Poor technique

with metered-dose inhalers can lead to large amounts of the inhaled drug being deposited at the back of the throat.

### **When to refer**

Sore throat lasting 1 week or more  
Recurrent bouts of infection  
Hoarseness of more than 3 weeks' duration  
Difficulty in swallowing (dysphagia)  
Failed medication

### **Treatment Timescale**

Patients should see their doctor after **1 week** if the sore throat has not improved.

### **Management**

Most sore throats are caused by viral infections and are self-limiting in nature, with 90% of patients becoming well within 1 week of the onset of symptoms. The pharmacist can offer a selection of treatments aimed at providing some relief from discomfort and pain until the infection subsides. Oral analgesics are first-line treatment. A systematic review found that simple analgesics (*paracetamol*, *aspirin* and *ibuprofen*) are very effective at reducing the pain from sore throat. Lozenges and pastilles have a soothing effect. There is some evidence that *benzylamine spray* is effective in relieving sore throat pain.

#### **A- Oral analgesics**

*Paracetamol*, *aspirin* and *ibuprofen* have been shown to provide rapid and effective relief of pain in sore throat. *Flurbiprofen lozenges* are used for sore throat for adults and children aged 12 years and over. They contain 8.75 mg of *flurbiprofen*, and one lozenge is sucked or dissolved in the mouth every 3–6 h as required, to a maximum of five lozenges. *Flurbiprofen lozenges* can be used for up to 3 days at a time.

#### **B- Locally acting preparations**

- *Mouthwashes and sprays*

- *Lozenges and pastilles*

*Lozenges and pastilles* are commonly used OTC treatments for sore throats, and where viral infection is the cause, the main use of antibacterial and antifungal preparations is to soothe and moisten the throat. *Mouthwashes* have very short contact time with inflamed mucosa and therefore any effect will be short lived. A lozenge or a pastille is preferable, as contact time will be longer. **These locally acting preparations may contain one (or all) the following effects:**

*Anti-inflammatory (e.g. benzydamine)*

*Benzydamine* is an anti-inflammatory agent that is absorbed through the skin and mucosa and has been shown to be effective in reducing pain and inflammation in conditions of the mouth and throat. Side-effects have occasionally been reported and include numbness and stinging of the mouth and throat. *Benzydamine spray* can be used in children of 6 years and over, whereas the mouthwash may only be recommended for children over 12 years.

*Local anaesthetic (e.g. benzocaine)*

Local anesthetic lozenges will numb the tongue and throat and can help to ease soreness and pain. *Benzocaine* and *lidocaine* are available in throat sprays.

*Antiseptic (e.g. cetylpyridinium)*

Lozenges containing *cetylpyridinium chloride* have been shown to have antibacterial action.

*Antifungal (e.g. dequalinium)*

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References:

1. Symptoms in the Pharmacy 8th Edition, 2018.
2. Community Pharmacy a guide to management of minor ailments 1<sup>st</sup> Edition, 2018.