

Allergic Rhinitis vs Non-Allergic Rhinitis

Rhinitis is an inflammation of the lining of the nose and typically causes symptoms such as runny nose, itching, sneezing and nasal blockage. Rhinitis can be classified as allergic or non-allergic and current research describes a third overlap category that includes characteristics of both: “mixed rhinitis”. The challenge to doctors on an everyday basis is differentiating between the different types to allow selection of the correct drug treatment and to decide whether avoidance measures or immunotherapy would be helpful. In this article I hope to help you distinguish between allergic and non-allergic rhinitis, so you can better understand your condition.

How common are allergic and non-allergic rhinitis ?

Allergic rhinitis is very common, affecting one in four people in the UK. Although the prevalence of *non-allergic rhinitis* has not been studied as definitively, it also appears to be very common: one Norwegian study found that 25% of the population suffered from it and nearly half had sought treatment. Research in the U.S. has shown the prevalence of pure allergic rhinitis with symptoms in the adult population is 43%, mixed allergic rhinitis and non-allergic rhinitis is 34%, and pure non-allergic rhinitis is 23%.

Interestingly, non-allergic rhinitis is known to have a greater predominance in females. It is rare in children but increasingly common over the age of 20: more than 60% of rhinitis sufferers over the age of 50 tend to suffer from a non-allergic cause.

Type of inflammation

Allergic rhinitis is characterised by the production of an antibody or chemical called immunoglobulin E (IgE). It orchestrates an inflammatory response in the lining of the nose following exposure to “allergens”, which are otherwise harmless proteins in our environment. This gives rise to a release of other chemicals including histamine, causing symptoms. In *non-allergic rhinitis*, there is no production of IgE, so skin and blood allergy tests are negative. However, other processes cause the blood vessels in the nose to dilate (expand), filling the nasal lining with blood and fluid, causing swollen nasal membranes and congestion. There are a variety of causes of these changes and they are listed below.

Causes

Allergic rhinitis can be categorised into three basic sub-groups: *seasonal* - due to pollens (“hayfever”), *perennial* – for example due to house dust mite, cats, dogs and moulds and *occupational* - triggered by exposure to allergens such as laboratory animals (e.g. rats, mice, guinea pigs), grains or wood dust. In the latter, symptoms occur only in the workplace. Occupational asthma may be associated and is most likely to occur in the first year after the rhinitis develops. Allergic rhinitis of any cause is a risk factor for the later development of asthma.

Non-allergic rhinitis can also be associated with asthma, but also with nasal polyps, otitis media and rhino-sinusitis. The most common cause of non-allergic rhinitis is an acute (short-lived) viral infection. Less common chronic causes include:

- ***Environmental or occupational irritants.*** Dust, smog, passive smoke, fumes or strong odours, such as perfumes.

- **Weather changes.** Temperature or humidity changes can trigger the membranes inside the nose to swell and cause a runny or stuffy nose.
- **Stress.** Emotional or physical stress can trigger non-allergic rhinitis in some people.

People triggered by any of these three factors are said to be suffering from “*vasomotor rhinitis*”.

- **Infections.** A common cause of non-allergic rhinitis is a viral infection such as the common cold. This type of non-allergic rhinitis usually clears up after a few weeks, but can cause lingering mucus in the throat (post-nasal drip). Sometimes, this type of rhinitis can become chronic, causing ongoing discolouration of the nasal discharge, facial pain and pressure (sinusitis).
- **Foods and beverages.** Especially hot or spicy foods. Drinking alcoholic beverages also may cause the nasal lining to swell, leading to nasal congestion. These reactions are commonly due to the additives/preservatives in the foodstuffs and alcohol. This is known as “*gustatory rhinitis*”
- **Certain medications.** Including aspirin, ibuprofen and blood pressure medications, such as beta-blockers and angiotensin-converting enzyme (ACE) inhibitors. Also sedatives, antidepressants, oral contraceptives or drugs used to treat erectile dysfunction. Overuse of decongestant nasal sprays can cause a type of non-allergic rhinitis called “*rhinitis medicamentosa*”.
- **Hormone changes.** Changes in hormones due to pregnancy, menstruation, oral contraceptive use or other hormonal conditions such as an underactive thyroid (hypothyroidism).

Symptoms

The presenting symptoms of allergic and non-allergic rhinitis are often indistinguishable from one another but generally speaking *non-allergic* symptoms tend to be more nasal blockage and rhinorrhoea (excessive running of the nose), whereas *allergic rhinitis* is associated with more sneezing and itch.

Diagnosis

The diagnostic challenge is to determine the cause, specifically whether it is allergic, non-allergic, or an overlap of both. Furthermore, a number of other conditions, some of which are rare, can produce the same signs and symptoms as rhinitis. The two types of rhinitis can generally be differentiated through a thorough history and physical examination. Allergy testing, using skin prick tests or blood tests (specific IgE testing) is not necessary in all patients but may be useful in ambiguous or complicated cases.

Treatment

In *allergic rhinitis*, wherever possible, allergen avoidance measures should be instigated e.g. if allergy to dust mite is causing rhinitis, then reducing exposure will help. The most useful measure is getting special covers for the mattress and bedding. Treatment with medication, mainly with anti-histamines and corticosteroid nasal sprays introduced in a step-wise manner should also be undertaken, with the possibility of allergen immunotherapy (desensitisation) which involves gradually administering increasing doses of an allergen extract, if the symptoms are severe or troublesome.

Treatment for *non-allergic rhinitis* often depends on what is causing the condition. With a viral infection, treatment may not be necessary, as the condition will normally clear up within a week or two. If it is thought that something specific is triggering the symptoms, avoidance will be recommended e.g. smoky or polluted environments or stopping a medication.

In many cases of non-allergic rhinitis, rinsing the nasal passages with a salt-water solution can be helpful. This is known as nasal douching or nasal irrigation. It helps wash away any excess mucus or irritants, which can reduce inflammation and relieve symptoms.

Various types of nasal spray are available to help relieve the symptoms of non-allergic rhinitis including: antihistamine nasal sprays and corticosteroid nasal sprays – these help to relieve congestion and a runny nose by reducing inflammation; anticholinergic nasal sprays – these reduce mucus production, which helps to relieve a runny nose and decongestant nasal sprays – these relieve congestion by reducing swelling of the blood vessels inside the nose but they should not be used for longer than 5-7 days at a time, otherwise they can make congestion worse.

Summary

Rhinitis is common but frequently ignored or regarded as trivial, even by sufferers themselves. However it can reduce quality of life by impairing sleep, reducing school performance and attendance at work. The diagnosis of non-allergic rhinitis is made after eliminating allergic causes and differentiation of the two diseases is crucial. Although many people can self-manage with over the counter remedies, an assessment by an allergist can really help even the most severe cases by ensuring the correct diagnosis is made, appropriate medication prescribed and specialist treatments considered.

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