

Allergic Rhinitis - What We Can Do about the Sensitive Nose

Introduction

Allergic Rhinitis is defined as inflammation of the lining of the nasal cavity as a result of an allergic reaction. The more common allergens are found in the air such as house dust mite (figure 1), pollens, grasses, cockroach and animal dander like dogs and cats. The other group of allergens that can cause a reaction in the nose and throat is food. Patients can be allergic to a particular food type which can result in swelling of the nose and production of mucous and phlegm. While the pathogenesis of inhalant allergies is well understood and related to histamine release, the mechanism for food allergy is less well understood and is a topic of controversy. Although symptoms from certain foods are related to histamine release such as shellfish, peanuts and can cause severe allergic reactions that are potentially fatal (anaphylaxis), the majority do not cause histamine-related symptoms.



Figure 1

Symptoms and Signs

Together with asthma and eczema (sensitive skin), allergic rhinitis completes the allergic triad. The symptoms and signs of nasal allergy include

1. **Nasal Obstruction** - in the nasal cavity, there are turbinates (fig 2) which functions to filter the air entering the nose and lungs. These structures can swell (fig 3) and cause obstruction when allergens enter the nose.

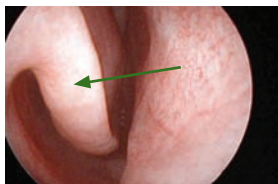


Figure 2



Figure 3

2. **Rhinorrhea (Nasal Discharge)** - many patients experience a 'runny' nose especially in the morning. Histamine release causes mucous glands to produce more mucous in response to allergen exposure.
3. **Sneezing and Itching** - histamine also causes swelling and increases sensitivity of the nasal lining and surrounding structures such as eyes and throat, resulting in itching.
4. **Postnasal Drip** - mucous and phlegm can track down from the back of the nose into the throat and cause a persistent cough, sorethroat and sensation of 'something stuck in the throat'.
5. **Associated Symptoms** - patients with severe or untreated nasal allergy also suffer poor sleep from nasal blockage and are more prone upper respiratory tract infections and sinusitis. The eyes are also itchy and tear easily.

How do we Test for Allergies?

For Aeroallergens (allergens found in the air)

1. **Skin Prick Test** - simple, quick and reliable. This can be performed in the clinic (fig 4) and suitable for young children. Patients should stop antihistamines for 3 days before the test.
2. **RAST (RadioAllergoSorbent Testing)** - this is a blood test designed to measure levels of Immunoglobulin E (IgE) to a specific allergen.

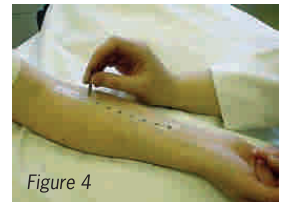


Figure 4

For Food Allergies

3. **Intradermal Provocation Food Testing (IPFT)** - this is a test to detect food allergies. It involves injecting a food extract into the dermis of the skin (fig 5). Thus, it is a painful test. It can be performed in the clinic in adults but children usually require intravenous sedation. However, this test is not accepted by all physicians who manage allergies as food allergy is a topic of controversy at the present time.
4. **Oral Challenge** - this is a gold standard for food allergy but is time consuming and sometimes difficult in children. The suspected food is given orally and patients record the subsequent presence or absence of symptoms.
5. **Serum IgG and IgE levels** - a blood test that measures levels of IgG and IgE to certain foods.



Figure 5

Treatment Options

There are 4 principles in the management of Nasal Allergy.

1. Allergen Avoidance

If possible, avoiding the offending allergen is the best treatment. No medications are involved and it's free! Unfortunately, the most common aeroallergen is house dust mite and avoiding this ubiquitous organism is nearly impossible (patients are actually allergic to the mite feces, not the mite itself). It is said that one queen size mattress is home to 10 million mites! Vacuuming, dusting, washing in hot water may reduce their numbers but never to zero.

2. Medical Therapy

The mainstay of treatment involves using nasal steroid sprays and oral antihistamines (fig 6). The medications are safe to use long-term and have little to no side effects (some antihistamines can cause drowsiness and overuse of decongestant drops can lead to increased blockage). They are also relatively affordable. However, the medications only serve as a control and symptoms recur when treatment stops.



Figure 6

3. Sublingual Immunotherapy (SLIT)

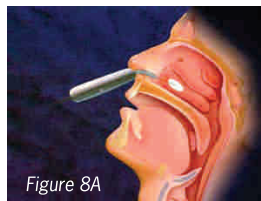
Immunotherapy is the only treatment that has been proven to alter the clinical nature of allergy. Numerous studies have shown conclusively the effectiveness of immunotherapy. It is administered by squirting the allergen in liquid form under the tongue daily for 3 years (fig 7). The success rate is quoted at 75 to 80%, meaning the patient will no longer have the symptoms of nasal allergy without the need for medical therapy for the rest of his or her life. Immunotherapy has also been shown to be effective in the treatment of asthma.



Figure 7

4. Procedures for Nasal Obstruction

In some patients with chronic nasal obstruction, even medical treatment fails to relieve blockage. In the past, to achieve relief, surgery to cut out the swollen turbinates under general anaesthesia was usually required. This surgery was painful, required a few days off work and associated with significant bleeding.



Nowadays, there is a simple, 15-minute clinic procedure done under local anaesthesia that offers a long-term solution. This is Radiofrequency Turbinate Reduction (RTR). The principle in RTR is to shrink swollen turbinates using electrical energy applied to the front part of the lowest turbinate in the nose (fig 8A & 8B). Once shrunk, the turbinate cannot swell up again and the nose will remain clear at all times. The procedure is entirely painless, suitable for adults and children and requires no time off work or school.

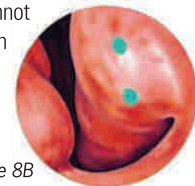


Figure 8B

Conclusion

Although nasal allergies affect many people and their quality of life, many treatments are readily available that are safe and effective. The main aim in the management is to relieve nasal blockage, rhinorrhea and itching so as to improve quality of sleep, ability to concentrate and general well-being.

Prepared by

Dr Gerard Chee
Consultant, Ear Nose Throat Surgeon