Non-allergic rhinitis and its management

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Non-allergic rhinitis

Non-allergic rhinitis (NAR) is inflammation of the nose not related to an allergen with similar symptoms to allergic rhinitis with nasal obstruction, sneezing, rhinorrhoea, post nasal drip and a reduced sense of smell. Representing a quarter of rhinitis cases in United States, the diagnosis of NAR is typically based on a detailed medical history and exclusion of clinically relevant sensitization to airborne allergens and exclusion of clinical signs of rhinosinusitis. Within the current setting at public hospitals in Hong Kong, the diagnosis is mostly based on a detailed clinical and social history to arrive at a diagnosis because of the unavailability of routine allergen testing and nasal provocation for local allergic rhinitis within the nasal cavity.

There are multiple causes of NAR including viral upper respiratory infections, hormone imbalances during pregnancy or puberty and environmental triggers including occupational or gustatory rhinitis.[1] Vasomotor rhinitis represents the most common type of NAR. Although the etiology and mechanisms underlying NAR are poorly understood, it can roughly be divided into a classic inflammatory pathway, neurogenic pathway and other pathways where treatment regimens mimic those of allergic rhinitis with limited effects.

Recently, the European Academy of Allergy and Clinical Immunology classified NAR into six subgroups including senile rhinitis, gustatory rhinitis, occupational rhinitis, hormonal rhinitis, drug-induced rhinitis and idiopathic rhinitis based on their clinical phenotypes.[2] Here we review some options in treating patients with NAR.

Intranasal corticosteroids?

These may be most useful in occupational rhinitis and drug-induced rhinitis where an inflammatory pathway is postulated to be involved. However, a Cochrane review of randomized controlled trials evaluated intranasal steroids in 13 studies of patients with NAR, which included 2,045 participants. In the short term (at four weeks), there was improvement in the total nasal symptom score (TNSS). Beyond 4 weeks, there was no clear improvement in TNSS with intranasal corticosteroids. This trend was also similar for quality of life of patients with NAR comparing intranasal corticosteroids with placebo. Therefore, the Cochrane review concluded that there is very little evidence supporting the use of intranasal corticosteroids in managing NAR.[3]

Other therapies?

Anticholinergic treatment with the use of intranasal ipratropium bromide is considered ideal to control senile rhinitis that occurs in patients older than 65 years of age with bilateral watery nasal secretions.[2, 4] Unfortunately, this drug is unavailable in the intranasal format in the hospital authority system to treat this common ailment of the elderly.

Capsaicin, from the genus capsicum, is the active ingredient in chili peppers that has been used in neurogenic pain and inflammation. It is a naturally irritant compound that has been shown to reduce the innervation of the nasal mucosa without affecting nasal epithelial cells or mast cells.[5] Its use results in a significant long-term reduction in symptoms, particularly for patients with idiopathic rhinitis. Figure 1 provides a summary of the medical management of the different NAR in patients.

Avoidance of irritants and smoking cessation is important for those with suspected occupational related rhinitis and idiopathic rhinitis. The role of nasal sinus rinses in NAR is limited. Finally, for patients with gustatory rhinitis or idiopathic rhinitis, a phenomenon based on clinical history and lack of response to topical nasal corticosteroids in the public setting, surgical treatment with vidian neurectomy as a minor intranasal procedure may help by severing the parasympathetic supply to the mucosa in those with severe symptoms not controlled by conservative management.

In summary, the treatment of NAR has a wide array of options available depending on subtype that the patient likely has based on the clinical history. However, only limited studies exploring the real-life epidemiology, pathophysiology, and therapeutic outcomes of the different subgroups of NAR are available to give us good treatment options for these patients with a highly prevalent condition.

References

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Figure 1. Treatments in patients with non-allergic rhinitis.

