

# What You Need To Know – Medications for Rhinitis – Uses and Abuses

K B K Soh

Giving medications is only one of several options in the management of rhinitis. Before deciding on the most appropriate medication to prescribe, you will first have to determine the cause of rhinitis: allergic, non-allergic, infectious, occupational, hormonal or drug induced. After that, you decide if there are any non-drug and non-surgical methods that may be used to alleviate the symptoms. For example, if a patient is allergic to house dust mite, or cat's dander, he should be encouraged to clean up his bedroom environment or to keep the cat out of the bedroom. Besides avoidance and environmental control measures, there is also surgery, immunotherapy and neutralisation therapy to help in resolving the patient's symptoms.

## Symptom focused medical therapy

Whenever a patient complains of a nasal problem, ask for the 3 main symptoms: nasal obstruction, clear watery rhinorrhea and sneezing/itchiness. Other symptoms like hyposmia, mouth-breathing, dry throat, snoring, postnasal drip, night cough, headaches, poor sleep and epistaxis are important, but they are "byproduct" symptoms which normally resolve when the 3 main symptoms are treated. For example, nasal obstruction can lead to hyposmia, mouth breathing and snoring. With adequate treatment of nasal obstruction, these "byproduct" symptoms usually improve.

## Three main groups of nasal medications

1. Oral antihistamines: These act by competitive inhibition of H1 histamine receptors in the nasal mucosa. Blockade of histamine action results in alleviation of nasal obstruction, rhinorrhea and sneezing/itchiness. However, antihistamines do not have a similar effect on the three nasal symptoms. They are highly efficacious in relieving rhinorrhea, sneezing and itchiness, but less so with nasal obstruction. Furthermore, antihistamines block the action of histamine, but not the other mediators of allergic inflammation such as bradykinin and prostaglandin. Thus, although symptom relief with antihistamines are significant, steroids offer more in terms of superiority in clinical efficacy.

The second generation non-sedating antihistamines offer many advantages over older drugs from the first generation. They have a longer half-life, and offer once

a day dosing to improve patient compliance. Unlike older antihistamines, which also act on the cholinergic receptors, new generation antihistamines have greater H1 receptor specificity, minimal unwanted anticholinergic effects, and a better therapeutic window. Furthermore, oral antihistamines have an advantage over topical steroids in being able to treat allergic manifestation other than rhinitis eg. conjunctivitis and eczema.

I normally avoid Hismanal, which has an extremely long half life of 2 weeks. Hismanal also carries with it the risk of weight gain and cardiac arrhythmias. Another new generation antihistamine, Teldane, has been withdrawn because of its tendency to build up to high concentrations when given simultaneously with erythromycin and ketoconazole; giving rise to risks of cardiac arrhythmias. I would recommend either Zyrtec, Clarityne, and a new entrant into the market, Kestine.

2. Topical glucocorticoids: The word "steroids" often create fear in patients. Such a fear is understandable as many patients are aware of the multitude of undesirable side-effects that is associated with long term oral steroid therapy. However, topical steroids and short term oral steroid therapy are legitimate options to consider in patients with rhinitis.

Topical steroids such as Flixonase and Rhinocort are the main-stay of long term control of rhinitis symptoms. In the past, before the safety of topical steroids were established, antihistamines were the drug of choice for initiating therapy for rhinitis patients. Presently, with the established safety, efficacy, and superiority of symptom control as demonstrated in numerous clinical trials, topical steroids have become the drug of first choice in symptom control. Topical steroids are also safe for children above 6 years of age. As long as dosage falls within recommended limits, children can be on topical steroids for up to a year without any untoward effects.

Topical steroids have 3 levels of safety:

a. They are given in very low doses. Flixonase delivers 50  $\mu\text{g}$  of active ingredient in each spray. If two sprays are used in each nostril once a day, only 200  $\mu\text{g}$  of steroids would have been given. Compare this with the a 20 mg oral dose of prednisolone.

Department of  
Otolaryngology  
National University Hospital  
5 Lower Kent Ridge Road  
Singapore 119074

K B K Soh, FRCSE,  
FRCSG, FAMS  
Consultant

	<b>Nasal Obstruction</b>	<b>Rhinorhea</b>	<b>Sneezing &amp; Itchiness</b>
Oral antihistamines	+	++	+++
Topical steroids	++	+++	+++
Oral steroids	++	+++	+++
Topical decongestants	+++	-	-
Oral decongestants	++	-	-

- b. They have a poor absorption even if they are swallowed.
  - c. Absorbed medications are quickly metabolised by the liver because of significant first pass effect.
3. Topical and oral decongestants (vasoconstrictors): They act by causing vasoconstriction of the erectile tissues found in the nasal septum and turbinates, improving nasal airway patency and lowering nasal airway resistance. Topical decongestants are very effective in unblocking the nose, working rapidly within minutes of topical instillation. However, they do little to relieve rhinorhea, sneezing and itchiness.

Unlike topical steroids, they should not be used for more than 2 weeks because of the development of rhinitis medicamentosa.

Decongestants are commonly used in combination with antihistamines or topical steroids.

This is done for the following reasons:

1. Complementary mode of action on different symptoms: Antihistamines and topical steroids work better with rhinorhea, sneezing and itchiness, but decongestants effectively relieve nasal obstruction.
2. Opposing mode of action on unwanted side-effects: First generation antihistamines cause sedation while oral decongestants produce mental stimulation and alertness.
3. Better distribution of topical medications: Topical steroids are poorly distributed in an obstructed nose. Preliminary treatment with a topical decongestant 3 to 5 minutes before administration of topical steroids allows the latter to be more effectively delivered and distributed in the nasal cavity, resulting in better clinical efficacy.