



## Lose the allergy, not your alertness!

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### Introduction

Although histamine plays an important role in the brain (as neurotransmitter) and in the stomach (to aid digestion), its activity at  $H_1$  histamine receptors is involved in allergic reactions. When allergens invade the body, histamine is released and causes the small blood vessels to become more permeable leading to watery eyes, a runny nose, sneezing and nasal congestion. Antihistamines work to suppress the effects of histamine and decrease their symptoms. The second generation antihistamines have been developed to be more specific to  $H_1$  receptors, thereby reducing the risk of adverse effects such as drowsiness and sedation. This article will discuss the second generation antihistamines in terms of their indications, risks and benefits.

### Indications

#### Allergic rhinitis

The oral second-generation antihistamines are registered for treatment of seasonal and/or perennial (all year round) allergic rhinitis. Although they are effective in reducing symptoms of itching, sneezing and a runny nose, they are less effective in easing a stuffy nose and are therefore often combined with decongestants. Cetirizine, levocetirizine, loratadine, desloratadine, ebastine, fexofenadine, mizolastine and rupatadine are second-generation antihistamines available over-the-counter (OTC) as oral preparations. None of the second-generation antihistamines have been shown to be more effective than any of the others.

Azelastine and levocabastine are both second-generation antihistamines available as nasal sprays for the treatment of

allergic rhinitis. These sprays work within minutes and for long periods to allow a twice daily dose.

#### Urticaria

Second-generation antihistamines are generally as effective and better tolerated than the older first-generation antihistamines in treating urticaria (red, itchy rash also referred to as hives). They decrease itching, the number, size and duration of wheals and flares, and improve quality of life in patients with urticaria. Desloratadine, fexofenadine, levocetirizine, ebastine and rupatadine are used commonly for treatment of urticaria and are available as OTC products in South Africa. Rupatadine is a new, more potent second-generation antihistamine used for the treatment of urticaria.

#### Allergic conjunctivitis

Azelastine, emedastine, epinastine, ketotifen, levocabastine and olopatadine are second-generation antihistamines available as eye drops for the treatment of allergic conjunctivitis. Olopatadine, ketotifen, azelastine, epinastine and emedastine also stabilise the cells (called mast cells) that usually release histamine and therefore have a dual mechanism of action. Although systemic antihistamines are effective in treating ocular allergies, they can be associated with more side-effects and therefore topical treatment may be preferred in the management of allergic conjunctivitis.

#### Use in children

The second-generation antihistamines are registered for use for patients 12 years of age and older and some from as early as two years of age. One product containing fexofenadine is registered for use from six months of age. (Refer to the manufacturers package insert for dose and indications). Cetirizine, levocetirizine and loratadine were studied and found to be suitable for use in children.

#### Safety

Second-generation antihistamines are less likely to cross the brain barrier and are therefore less likely to cause drowsiness

and sedation. However, since individuals may react differently, patients need to determine the effect an antihistamine has on them before driving or operating heavy machinery. Drowsiness due to antihistamine use tends to diminish over time. Although they are used to treat allergies, antihistamines can also cause allergies and if this happens, products from another class should be used to treat these allergic symptoms. The pharmacist or doctor should be consulted should a possible allergic reaction occur.

### Interactions

The second-generation antihistamines are unlikely to result in serious drug interactions. Speak to the pharmacist if the patient is taking any other medicines. Patients should also be advised to avoid drinking alcohol while taking antihistamines, even the non-sedating antihistamines.

### Conclusion

The second-generation antihistamines are considered non-sedating. They are well-tolerated with a low potential for interactions. They are effective in treating allergies, especially

to alleviate symptoms associated with nasal, ocular and skin allergies and are most effective when taken on a regular basis to prevent symptoms rather than on an as-needed basis. Overall, the second-generation antihistamines improve the quality of life in patients suffering from allergies.

### Bibliography

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