Supplement to
THE JOURNAL OF
Allergy AND Clinical Immunology

VOLUME 103 NUMBER 3, PART 2

Foreword

Allergic rhinitis is an IgE-mediated inflammatory disease of the nasal mucosa characterized by symptoms of sneezing, rhinorrhea, nasal congestion, and nasal pruritus. The disease may be seasonal as a result of the pollination patterns of a variety of airborne allergens or year-round as a result of chronic exposure to other environmental allergens such as house dust or animal dander. Allergic rhinitis has been estimated to affect as many as 40 million Americans, resulting in excess of 20 million physician visits each year with a cost in billions of dollars to the US economy. Losses in productivity in the workplace and restrictions to participation in various leisure activities also contribute to the economic and personal costs of allergic rhinitis. Many people with allergic rhinitis have a diminished quality of life, which is especially true of children who may have developmental delay, decreased productivity in the classroom, and social maladjustment.

Allergic rhinitis can occur alone or in association with conjunctivitis, asthma, chronic obstructive pulmonary disease, urticaria, or atopic eczema. Serous otitis media, which can be an important complication in children, may be superimposed on other symptoms of allergic rhinitis and may result from nasal obstruction or obstructive dysfunction of the eustachian tube caused by mucosal edema and secretions. Chronic sinusitis may be another complication, often manifested by the presence of chronic nasal discharge, pain, headache, and low-grade fever. Nasal polyps, particularly in perennial rhinitis, often arise concurrently with edema or infection within the sinuses and increase obstructive symptoms.

Avoiding exposure to allergens is the most effective means of controlling allergic rhinitis; however, avoidance may not be practical or even possible in some cases. Immunotherapy, which involves repeated subcutaneous injections of gradually increasing concentrations of allergen(s), may also be used with the hope of altering the natural course of the disease, especially when rhinitis cannot be managed by pharmacotherapy either because of a lack of efficacy or intolerable side effects.

Therapy with pharmacologic agents represents the standard approach to the management of seasonal or perennial allergic rhinitis. α-adrenergic agonist drugs (decongestants) are useful in relieving nasal congestion and are available as single entities and in combination with first-generation antihistamines in several over-the-counter preparations. Decongestants are effective administered either topically or systemically; however, prolonged topical administration can lead to rhinitis medicamentosa, which is characterized by both a progressive shortening of efficacy and rebound rhinitis after treatment is discontinued. Cromolyn sodium, a mast cell stabilizer, has few adverse effects associated with its use and is available in intranasal preparations. Cromolyn, however, is not recommended for episodic treatment and should be initiated before the onset of seasonal symptoms, with administration usually 4 to 6 times daily. Anticholinergic agents have recently become commercially available for use in allergic rhinitis, but their efficacy is limited to the management of rhinorrhea.

H_1-receptor antagonists (antihistamines) are generally prescribed as first-line therapy for most patients with allergic rhinitis. H_1-receptor antagonists are effective for controlling nasal symptoms such as sneezing, rhinorrhea, and itching and ocular symptoms such as itching and tearing. The use of older, first-generation H_1-receptor antagonists is often limited by sedation and unwanted anticholinergic effects such as visual disturbances and urinary retention; however, newer drugs of this class have been developed that have limited ability to enter the central nervous system, thereby reducing or eliminating many of the unwanted side effects of the first-generation drugs.

If the response to treatment with H_1-receptor antagonists is inadequate, intranasal corticosteroids are typically prescribed either alone or in combination with an H_1-receptor antagonist. The intranasal corticosteroids have efficacy equal to or exceeding the oral formulations and are also much safer when used appropriately. Oral steroids, because of the potential for systemic side effects, are usually reserved for treatment of patients with symptoms that are very severe or debilitating.

The articles in this supplement discuss the general concepts of pharmacotherapy in allergic rhinitis, provide an overview of the role of chemical mediators of inflammation in allergic disease, and review the mechanisms of action and therapeutic effectiveness of intranasal corticosteroids and second-generation H_1-receptor antagonists.

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J Allergy Clin Immunol 1999;103:S377.
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0091-6749/99/$8.00 + 0 **1/0/96499**