Pharmacotherapy of Perennial and Seasonal Allergic Rhinitis

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Summary

The options for pharmacotherapy of both perennial and seasonal allergic rhinitis continue to expand rapidly. The classic antihistamines will retain a place as effective drugs. They are without serious adverse effects, and are often available without a physician's prescription. The newer antihistamines, such as terfenadine, astemizole, loratadine and cetirizine, have made a great impact because they are, for the most part, non-sedating and have little or no anticholinergic activity. They have few interactions with other drugs and, except for very specific limited interactions, have proven to be well tolerated by patients previously unable to use antihistamines. Some of the newer antihistamines are also antiallergic by mechanisms other than H1-receptor antagonism, which will expand their usefulness.

Corticosteroids may be used as oral or intranasal preparations. The most frequently used preparations are beclomethasone, triamcinolone, budesonide and fluticasone. Corticosteroids are anti-inflammatory agents, and primarily protect against the late allergic response.

Decongestants produce symptomatic relief but are not antiallergic, acting only on the target organ. Mast cell stabilisers were the first agents to improve
both the immediate and late allergic responses. Intranasal sodium cromoglycate (cromolyn sodium) was the first available, being quite effective but requiring frequent administration. Intranasal nedocromil has several different mechanisms of action, including stabilising cell membranes and preventing mediator release. New oral preparations, such as ketotifen, may eventually be of benefit.

Other agents, such as mucolytics and anticholinergics, are still under development; all improve the symptoms of allergic rhinitis by a variety of mechanisms.

1. Allergy Patterns as an Approach to Pharmacotherapy

The nose can produce only a few symptoms regardless of the stimulus. These symptoms are seen in both seasonal and perennial allergic rhinitis, with variable degrees of rhinorrhoea, postnasal drainage, pruritus and sneezing, and congestion.

Both perennial and seasonal allergic rhinitis have similar clinical patterns with some specific differences. For example, in perennial rhinitis the secretions are frequently thicker and more tenacious, and the patient may have frequent vacuum-type headaches. We now understand that there may be both immediate and delayed responses in allergic disease, and indeed both perennial and seasonal allergic rhinitis produce the symptoms of the early allergic response such as:

- rhinorrhoea and postnasal drainage, due to increased goblet cell activity
- mucosal swelling from vascular engorgement and tissue oedema
- sneezing and itching of neurogenic origin

as well as the symptoms of the late allergic reaction, which is a cellular inflammatory reaction and causes marked congestion. This inflammatory response requires therapy other than that prescribed for the immediate reaction to an allergic stimulus. Therefore, understanding these reactions becomes important in determining pharmacotherapy.[1,2]

Pharmacotherapy may be used to control symptoms once started, or to prevent their occurrence by inhibiting allergic reactions by a variety of mechanisms. Some drugs benefit the symptoms of the immediate response only, whereas others will stop or protect against the late reaction. It is important to recognise the wide variations in individual patient responses.

The choice of a pharmacotherapeutic agent for use in allergic rhinitis, and the duration of its use, are determined by the expression of symptoms. Patient age must be considered, since children and the elderly may react adversely to drugs safely used in adulthood. Also, other medical problems and the drugs being used to treat them may pose interaction problems. With the variability in the allergic response, different agents may be appropriate. For example, a patient who has rhinorrhoea and sneezing, but no congestion, may need an antihistamine but not a decongestant. Those whose primary complaint is congestion, with no increased secretions, need decongestants.

Pharmacotherapy for allergic rhinitis involves the uses of antihistamines, decongestants, corticosteroids, both systemic and topical, and mast cell stabilisers. There are other agents which may also give symptomatic relief, such as mucolytics, anticholinergics and several miscellaneous types, which may add to the physician's armamentarium (table I). These agents provide variable degrees of relief for patients with both perennial and seasonal allergic rhinitis.

The search for new pharmacotherapeutic agents has led to drugs that directly address the pathophysiology of allergic reactions. Research continues worldwide to find new agents to treat patients with allergies.

2. Antihistamines

Antihistamines (H1-antagonists) are perhaps more commonly used than any other class of drugs