

THE JOURNAL OF Allergy AND Clinical Immunology

April 2001 • Volume 107 • Number 4

Fluticasone propionate/salmeterol combination

- [Previous article](#) in Issue
- [Next article](#) in Issue
- [Drug links](#) from Mosby's DrugConsult
- [Genetic information](#) from OMIM
- Citation of this Article
 - View on [PubMed](#)
 - Download in [citation manager format](#)
 - Download in [Medlars format](#)
- [Related articles](#) in PubMed

To the Editor:

I read the recent article by Nelson et al¹ showing that the fluticasone propionate/salmeterol combination provides more effective asthma control than low-dose inhaled corticosteroid plus montelukast. The primary outcome variable for the study was the morning peak flow, which exhibited a highly significant ($P < 0.001$) overall difference between the two treatments, amounting to 11.9 L/min. This is hardly surprising considering the study was set up to evaluate patients with persistent asthma who were required as an inclusion criteria to demonstrate bronchodilator reversibility to inhaled albuterol, with a mean reversibility in FEV₁ of 23% at screening. In other words, the study was biased toward showing improved bronchodilator efficacy with a β_2 -agonist such as salmeterol. The superior efficacy with salmeterol in other outcome variables such as FEV₁, albuterol use, and shortness of breath score is likely to reflect the bronchodilator activity of salmeterol.

Although the study of Nelson et al¹ indicates superior bronchodilator efficacy with salmeterol, it does not provide any real information on the relative anti-inflammatory activity of the two drugs. Salmeterol was reported to be associated with a 4% reduction in asthma exacerbations compared with montelukast, although none of these patients required

hospitalization as such. No information was given as to whether these exacerbations required treatment with anti-inflammatory therapy such as oral corticosteroids. It is not known whether effects of long-acting β_2 -agonists on exacerbation rates is due to putative anti-inflammatory activity or merely stabilization of the airway due to prolonged bronchodilator activity. Another possibility is that salmeterol increases peripheral deposition of fluticasone, thereby enhancing its anti-inflammatory activity.

Leukotriene receptor antagonists are known to exhibit in vivo anti-inflammatory activity, as evidenced by their effects on bronchial hyperresponsiveness, exhaled nitric oxide, sputum eosinophils, and airway biopsy.² The anti-inflammatory properties of leukotriene receptor antagonists may be more relevant in the longer term with respect to airway remodeling. Future studies comparing long-acting β_2 -agonists and leukotriene receptor antagonist should therefore focus more on anti-inflammatory effects over a longer period of duration, rather than biasing the design toward the known bronchodilator properties of long-acting β_2 -agonists.

1/8/114049

doi:10.1067/mai.2001.114049

Brian J. Lipworth, MD
Professor of Allergy and Pulmonology
Asthma and Allergy Research Group
Department of Clinical Pharmacology &
Ninewells Hospital and Medical School
University of Dundee
Dundee DD1 9SY, Scotland

References

TOP

1. Nelson HS, Busse WV, Kerwin E, Church N, Emmett A, Rickard K, et al. Fluticasone propionate/salmeterol combination provides more effective asthma control than low-dose inhaled corticosteroid plus montelukast. *J Allergy Clin Immunol* 2000;106:1088-95.

MEDLINE

CROSSREF

2. Lipworth BJ. Leukotriene-receptor antagonists. *Lancet* 1999;353:57-62.

MEDLINE

CROSSREF