therapy in a managed care setting received preventive therapy or prescribed medications for osteoporosis and to identify patient and provider characteristics associated with treatment.

Study Population and Methods. A cohort of 224 health plan enrollees 20 years and older who were dispensed at least 1 oral glucocorticoid prescription per quarter during the period October 1997 through September 1998 was identified from administrative data. Medical charts and administrative data were reviewed to determine use of preventive therapy and prescribed medications for osteoporosis.

Results. Of the 224 patients, 62% had at least 1 documented intervention aimed at osteoporosis prevention (counseling about calcium or vitamin D or weight-bearing exercise; prescription for estrogen, calcitonin, or bisphosphonate; or a bone mineral density study). Women were more likely than men to receive intervention (76% vs 44%; prevalence odds ratio: 4.41; 95% confidence interval: 2.17–9.10). Patients receiving a mean daily prednisone dose of 10 mg or more or 5 to <10 mg were no more likely to receive intervention than those receiving 5 mg or less prednisone daily. Sixty-two (90%) of 69 patients who were prescribed glucocorticoid therapy by rheumatologists had at least 1 intervention documented compared with 29 (48%) of 60 for internists, 26 (55%) of 47 for pulmonologists, and 22 (46%) of 48 for all other physicians. In a multiple logistic regression model, including patient age, sex, mean daily glucocorticoid dose, and physician specialty, women and patients prescribed glucocorticoids by a rheumatologist were significantly more likely to receive intervention aimed at osteoporosis prevention.

Conclusions. A substantial proportion of patients receiving long-term glucocorticoid therapy do not receive preventive therapy for osteoporosis. Efforts should be made to reduce barriers to such treatment and increase the proportion of patients given preventive therapy.

Reviewer’s Comments. This issue remains important. Over half the patients in this study had either asthma or chronic obstructive pulmonary disease. Nonetheless, I’m just not treating very many asthmatic patients with oral corticosteroids these days, so it just doesn’t come up very often. As I understand it, it’s been difficult demonstrating that inhaled corticosteroids cause osteopenia.

LEUKOTRIENE ANTAGONIST THERAPY

EFFECTS OF ZAFIRLUKAST UPON CLINICAL, PHYSIOLOGIC, AND INFLAMMATORY RESPONSES TO NATURAL CAT ALLERGEN EXPOSURE


Purpose of the Study. Leukotriene receptor antagonists have been shown to attenuate physiologic changes in the upper and lower airways induced by inhaled allergen challenge. This study looks at the effects of the oral leukotriene receptor antagonist zafirlukast on natural exposure to cat in patients with cat allergy. This study examines clinical, physiologic and inflammatory responses of the upper and lower airways.

Study Population. Eighteen asthmatic patients between the age of 12 and 65 participated. All patients had a positive prick skin test to cat allergen and a positive response to a screening cat room challenge. At the time of study entry, all subjects were free of upper and lower respiratory tract symptoms.

Methods. This study used a randomized, double-blind, placebo-controlled cross-over design. Two weeks after the screening cat challenge, the patients were randomized to receive either zafirlukast 20 mg bid or placebo for 7 days before the first cat room challenge. All other allergic and asthmatic medications were held per standard protocol. Then, after a 14-day washout period, the patients were crossed-over to receive the alternate therapy for a week and then receive a second cat room challenge. Clinical symptoms, pulmonary function and sputum and nasal lavage fluid, cell and eosinophil cationic protein (ECP) measurements were performed before and after each natural cat challenge.

Results. Fel d 1 concentrations were measured and were similar during both the placebo and the zafirlukast challenges. After cat challenge, zafirlukast significantly reduced scores for both wheezing (P = .0004) and chest tightness (P = .019) compared with placebo. Symptom scores for the upper airways (congestion, rhinorrhea, itching, sneezing) did not meet statistical significance between the 2 treatments. After 7 days of treatment, prechallenge FEV1 was significantly higher with zafirlukast vs. placebo (P = .001). After cat exposure, zafirlukast significantly attenuated the decrease in forced expiratory volume in 1 second (FEV1) compared with the placebo (−15.1% vs −25.1%; P = .019). The occurrence of late asthmatic responses during the study was low, with 1 placebo-treated patient and 3 zafirlukast-treated patients demonstrating changes in pulmonary function between 2 and 12 hours after cat challenge. Analysis of induced sputum demonstrated no statistically significant differences between zafirlukast and placebo in total cell counts, cell differential, or ECP before or after challenges. Analysis of nasal lavage fluid revealed significantly fewer total cells and absolute counts of lymphocytes, neutrophils, monocytes, and basophils for zafirlukast compared with placebo after challenge, but there were no statistically significant differences in absolute or percentage eosinophils or ECP.

Conclusions. Zafirlukast 20 mg bid for 1 week demonstrated a significant protective effect on symptoms of asthma and alterations in pulmonary function induced by natural cat exposure. There were no effects noted on nasal symptoms, and no difference in the number of eosinophils or ECP in the upper or lower airway was seen with active treatment versus placebo.

Reviewer’s Comments. A similar trial (J Allergy Clin Immunol. 2000;105:704–710) also demonstrated a significant improvement in FEV1 postchallenge at 15 and 30 minutes but not at 45 and 60 minutes. This study also showed improvement in both lower and upper respiratory symptoms and intranasal anatomy measured by acoustic rhinometry. Other studies have also shown that leukotriene receptor antagonists in Food and Drug Administration (FDA)-approved doses do not affect airway eosinophilia after a single allergen exposure. Only 1 study has been published to date looking at long-term use of montelukast in asthma showing attenuated sputum eosinophilia with chronic therapy.

A COMPARISON OF SHORT-TERM TREATMENT WITH INHALED FLUTICASONE PROPIONATE AND ZAFIRLUKAST FOR PATIENTS WITH PERSISTENT ASTHMA


ALLEN ADINOFF, MD
Aurora, CO

ALAN B. GOLDSOBEL, MD
San Jose, CA
Effects of Zafirlukast Upon Clinical, Physiologic, and Inflammatory Responses to Natural Cat Allergen Exposure

Alan B. Goldsobel

*Pediatrics* 2002;110:463

Updated Information & Services

including high resolution figures, can be found at:
/content/110/Supplement_2/463.2.full.html

Subspecialty Collections

This article, along with others on similar topics, appears in the following collection(s):

**Allergy/Immunology**
/content/collection/allergy:immunology_sub

**Asthma**
/content/collection/asthma_sub

Permissions & Licensing

Information about reproducing this article in parts (figures, tables) or in its entirety can be found online at:
/site/misc/Permissions.xhtml

Reprints

Information about ordering reprints can be found online:
/site/misc/reprints.xhtml

PEDIATRICS is the official journal of the American Academy of Pediatrics. A monthly publication, it has been published continuously since 1948. PEDIATRICS is owned, published, and trademarked by the American Academy of Pediatrics, 141 Northwest Point Boulevard, Elk Grove Village, Illinois, 60007. Copyright © 2002 by the American Academy of Pediatrics. All rights reserved. Print ISSN: 0031-4005. Online ISSN: 1098-4275.
Effects of Zafirlukast Upon Clinical, Physiologic, and Inflammatory Responses to Natural Cat Allergen Exposure
Alan B. Goldsobel
Pediatrics 2002;110;463

The online version of this article, along with updated information and services, is located on the World Wide Web at:
/content/110/Supplement_2/463.2.full.html