LOW-DOSE INHALED CORTICOSTEROID THERAPY AND RISK OF EMERGENCY DEPARTMENT VISITS FOR ASTHMA

Sin DD, Man SFP. Arch Intern Med. 2002;162:1591–1595

Purpose of the Study. To determine if inhaled corticosteroid (IC) therapy prescribed after discharge from the emergency department (ED) prevents relapse of asthma exacerbations.

Study Population. Twelve hundred ninety-three residents of Alberta, Canada, who were enrolled in a government drug plan and visited an ED for asthma exacerbations between April 1, 1997, and March 31, 1999.

Methods. The study cohort was identified using the Alberta Hospital Classification System database. Patients 5 to 60 years of age who had at least 1 ED visit for asthma were included in the cohort if they were enrolled in the government-sponsored drug plan. The cohort was formed from the time of the first identified ED visit to the date of a subsequent ED visit. Information regarding prescribed asthma medications was obtained through the Alberta Blue Cross database. The study population was stratified into nonusers and users of IC as well as into low- (<500 µg/day beclomethasone dipropionate or equivalent per day), medium- (501–1000 µg/day), and high-dose (>1000 µg/day) users. Rates of subsequent ED visits for asthma were compared between the IC users and nonusers and between the low-, medium-, and high-dose groups using the Cox proportional hazard regression.

Results. Six hundred fifty-eight (50.9%) of the cohort were not prescribed IC. Of those who were prescribed IC, 241 (18.6%) received low-dose, 96 (7.4%) received medium-dose, and 122 (9.4%) received high-dose IC. Inhaled corticosteroid users were older and were more likely to have used other asthma medications during the first 100 days of follow-up than nonusers. Inhaled corticosteroid use was associated with a decreased risk (relative risk [RR]: 0.64; 95% confidence interval [CI]: 0.52–0.70) of a subsequent ED visit. After adjusting for age, sex, use of other asthma medications, comorbidity, and hospitalization, IC users still had a significantly reduced risk of a repeat ED visit (RR: 0.55; 95% CI: 0.44–0.69). Patients in all 3 dose categories had significantly reduced risks of repeat ED visit (low-dose: RR: 0.52; 95% CI: 0.39–0.68; medium-dose: RR: 0.51; 95% CI: 0.39–0.68; high-dose: RR: 0.67; 95% CI: 0.47–0.94). However, medium- and high-dose IC did not reduce the rate of repeat ED visits to any greater extent than did low-dose IC.

Conclusions. In this cohort with recent ED visits for asthma, IC reduce the risk of subsequent ED visits. The results suggest that this risk reduction is similar across all 3 dose groups and thus high-dose IC may not afford any greater protection than low-dose IC.

Efficacy and Safety of Low-Dose Fluticasone Propionate Compared with Zafirlukast in Patients with Persistent Asthma


Purpose of the Study. The study was designed to compare the efficacy and safety of fluticasone propionate and zafirlukast in patients with relatively stable persistent asthma who were previously treated with inhaled corticosteroids and short-acting β₂-agonists.

Patient Population and Methods. A total of 440 patients (≥12 years of age) previously treated with inhaled corticosteroids (beclomethasone dipropionate or triamcinolone acetonide) and short-acting β₂-agonists were included in this randomized, double-blind study. After an 8-day run-in period, patients were treated with fluticasone (88 µg) or zafirlukast (20 mg) twice daily for 6 weeks. Outcome measures included pulmonary function (forced expiratory volume in 1 second [FEV₁], peak expiratory flow [PEF]), albuterol use, asthma symptoms, withdrawals attributable to lack of efficacy, and asthma exacerbations.

Results. Patients treated with fluticasone (n = 224) experienced greater mean increases in FEV₁ (0.24 L vs 0.08 L; P < .001), morning PEF (30 L/min vs 6 L/min; P < .001), and evening PEF (23 L/min vs 5 L/min; P < .001) during the study than did those treated with zafirlukast (n = 216). Fluticasone-treated patients had significantly greater increases in the mean percentages of symptom-free days (22% vs 8%; P < .001), rescue-free days (23% vs 10%; P = .002), nights with uninterrupted sleep (<1% vs ~5%; P = .006), and fewer asthma exacerbations (1% vs 6%; P = .005). Fewer fluticasone-treated patients were withdrawn because of a lack of efficacy (2% vs 13%; P < .001).

Conclusions. Inhaled fluticasone was more effective than zafirlukast in maintaining or improving asthma control in patients with relatively stable asthma who were switched from low-dose inhaled corticosteroids.

Reviewer’s Comments. So the debate rages on. What’s different here is that the dose of fluticasone used was very low; only slightly greater than the inhaler over the patient’s hand. On the other hand, we all see patients whose symptoms are extremely well-controlled with leukotriene receptor antagonists.

Allen Adinoff, MD
Aurora, CO
LOW-DOSE INHALED CORTICOSTEROID THERAPY AND RISK OF EMERGENCY DEPARTMENT VISITS FOR ASTHMA
Elizabeth C. Matsui and Robert A. Wood
Pediatrics 2003;112;483

Updated Information & Services
including high resolution figures, can be found at:
http://pediatrics.aappublications.org/content/112/Supplement_2/483.1

Subspecialty Collections
This article, along with others on similar topics, appears in the following collection(s):
Allergy/Immunology
http://www.aappublications.org/cgi/collection/allergy:immunology_sub

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

Reprints
Information about ordering reprints can be found online:
http://www.aappublications.org/site/misc/reprints.xhtml
LOW-DOSE INHALED CORTICOSTEROID THERAPY AND RISK OF EMERGENCY DEPARTMENT VISITS FOR ASTHMA
Elizabeth C. Matsui and Robert A. Wood
Pediatrics 2003;112;483

The online version of this article, along with updated information and services, is located on the World Wide Web at:
http://pediatrics.aappublications.org/content/112/Supplement_2/483.1