Long-term Budesonide or Nedocromil Treatment, Once Discontinued, Does Not Alter the Course of Mild to Moderate Asthma in Children and Adolescents


PURPOSE OF THE STUDY. To determine whether long-term, continuous use of inhaled antiinflammatory medications affects asthma outcomes in children with mild-to-moderate asthma after use is discontinued.

STUDY POPULATION. A total of 941 children, 5 to 12 years of age, who had previously participated in the Childhood Asthma Management Program (CAMP).

METHODS. During the CAMP trial, subjects received treatment with budesonide, nedocromil, or placebo for 4.3 years. During the posttrial period, asthma management was provided by primary care physicians according to National Asthma Education and Prevention Program guidelines. Posttrial evaluations included spirometry, methacholine challenge, measurements of height, weight, and bone density, the Child Behavior Checklist, and the Pediatric Asthma Quality of Life Questionnaire.

RESULTS. Treatment for asthma was similar for all 3 groups. The budesonide group had 29% fewer prednisone courses (P = .05) and 36% fewer urgent care visits (P = .05), compared with the placebo group, but the rates of these events were low in all groups. The statistically significantly decreased height in the budesonide group, relative to the placebo group, at the end of the CAMP trial (1.1 cm; P = .005) persisted, with a decrease of 0.9 cm (P = .01) at the end of the posttrial follow-up period. This height decrease was observed in girls but not boys. No significant differences between the groups were observed in mean percentage of time receiving inhaled corticosteroid, mean percentage of time using no medications, end-of-trial percentage of predicted forced expiratory volume in 1 second and percentage of predicted forced vital capacity, bronchodilator reversibility, methacholine responsiveness, rate of fractures, sexual maturation, or any of the psychological or asthma-specific quality of life measures examined.

CONCLUSIONS. During the posttrial follow-up period, asthma morbidity and medication use were not appreciably affected by earlier long-term use of budesonide or nedocromil. The reductions in prednisone course and urgent care visits seen in the budesonide group do not seem relevant, on the basis of the overall rates of these events in all groups.
Inhaled corticosteroids are safe and effective for long-term control of asthma, but this study shows that continued benefit requires ongoing use. We must continue to consider factors such as symptoms, spirometry findings, and biochemical markers and to use our clinical judgment to determine which children will benefit from continued treatment. It is hoped that future phenotype and genotype studies will shed more light on this issue.

URL: www.pediatrics.org/cgi/doi/10.1542/peds.2009-1870TTT

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Oral Prednisolone for Preschool Children With Acute Virus-Induced Wheezing
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PURPOSE OF THE STUDY. To determine the efficacy of a short course of oral prednisolone treatment for wheezing induced by upper respiratory viral infections in preschool-aged children.

STUDY POPULATION. The study included 700 children between 10 and 60 months of age who were hospitalized at 3 different centers in England with attacks of wheezing associated, by the judgment of an examining physician, with viral infection. Most of these patients did not have the classic phenotype of atopic asthma.

METHODS. This was a randomized, double-blind, placebo-controlled trial. In the nonplacebo arm of the study, children 10 to 24 months of age received 5 days of prednisolone treatment at 10 mg/day, whereas the older children received 20 mg/day. The primary outcome was duration of hospitalization. Secondary outcomes were Preschool Respiratory Assessment Measure scores, use of albuterol, and 7-day symptom scores.

RESULTS. There was no significant difference in the duration of hospitalization between the placebo group and the prednisolone group (13.9 vs 11.0 hours) or in the interval between hospital admission and signoff for discharge by a physician. There was also no significant difference in any of the secondary outcomes or in the number of adverse events.

CONCLUSIONS. In preschool-aged children presenting to a hospital with mild-to-moderate wheezing associated with a viral infection, oral prednisolone treatment was not superior to placebo.

REVIEWER COMMENTS. I fondly remember my numerous rotations in the emergency department during my residency at St Louis Children’s Hospital, when one of my goals was to quickly assess wheezing children and to just as quickly give them oral steroids. This report suggests that we should think twice before giving that oral steroid. However, it must be pointed out that the dose of prednisolone used in the trial was substantially less than 2 mg/kg and the lack of effect may reflect, in part, the dose. Furthermore, most of the patients in this trial did not have atopy. Wheezing children with allergies do respond to oral corticosteroid treatment. This trial does raise very important questions about commonly accepted norms of treatment, but “real-world” practice may be different.

URL: www.pediatrics.org/cgi/doi/10.1542/peds.2009-1870UUU

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Pediatrics 2009;124;S150
DOI: 10.1542/peds.2009-1870TTT
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