children presenting to the ED. Treatment with dexamethasone was compared with prednisone/prednisolone treatment for the primary outcome of return visits or readmissions to the hospital.

RESULTS. The authors report similar relative risks (RRs) of relapse at all time points between the 2 groups: 5 days (RR: 0.90 [95% confidence interval (CI): 0.46–1.78]), 10 to 14 days (RR: 1.14 [95% CI: 0.77–1.67]), and 30 days (RR: 1.20 [95% CI: 0.03–56.93]). Dexamethasone was associated with a lower incidence of emesis in either the ED (RR: 0.29 [95% CI: 0.12–0.69]) or home (RR: 0.32 [95% CI: 0.14–0.74]).

CONCLUSIONS. The authors recommend that clinicians consider single or 2-dose regimens of dexamethasone as a robust alternative to 5 days of prednisone/prednisolone.

REVIEWER COMMENTS. The authors demonstrate by meta-analysis that dexamethasone and prednisone/prednisolone are equally effective therapy regarding prevention of revisits to the clinic, ED, or for hospitalization, but adherence is likely better with the shorter course and is better tolerated. The studies are not sufficient in statistical power to determine whether intramuscular or oral dexamethasone are equivalent. Finally, the generalizability of these conclusions to other health care settings outside of the ED is a subject for future studies.

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Christopher Randolph, MD
Waterbury, CT

Question 1: Prednisolone or Dexamethasone for Acute Exacerbations of Asthma: Do They Have Similar Efficacy in the Management of Exacerbations of Childhood Asthma?


PURPOSE OF THE STUDY. Prednisolone is the most commonly prescribed corticosteroid for asthma exacerbations; however, a 5-day course is normally required, and adherence may be an issue. Dexamethasone is a long-acting corticosteroid, and a 1-dose intramuscular or 1- or 2-dose oral course may be an alternative. How do these 2 treatments compare?

STUDY POPULATION/METHODS. A Medline search was performed which revealed 6 randomized trials that have compared the efficacy of prednisolone and dexamethasone for use in pediatric asthma exacerbations.

RESULTS. There was some heterogeneity among the studies, with 3 comparing a single dose of intramuscular dexamethasone with a 3- to 5-day course of oral prednisolone, and 3 comparing 1 or 2 doses of oral dexamethasone with a 5-day course of oral prednisolone. None of the 6 studies reported any significant differences in efficacy for symptom scores, hospitalization rates, or relapse rates.

CONCLUSIONS. All 6 studies supported the claim that dexamethasone is just as effective as prednisolone.

REVIEWER COMMENTS. These studies seem convincing in suggesting that 1 dose of intramuscular dexamethasone or 1 or 2 doses of oral dexamethasone are as effective as a several-day course of prednisolone for asthma exacerbations, and this approach could clearly improve treatment adherence when this outcome may be in doubt.

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John M. Kelso, MD
San Diego, CA

Add-on Omalizumab in Children With Severe Allergic Asthma: A 1-Year Real Life Survey


PURPOSE OF THE STUDY. The goal of this study was to report the real-life efficacy and safety of add-on treatment with omalizumab in a large group of children with severe allergic asthma. The primary aim of this observational study was to evaluate the effect of omalizumab on asthma control. Secondary aims were to evaluate outcomes, including asthma exacerbations, health care utilization, inhaled corticosteroid (ICS)-sparing effect, pulmonary function test results, and safety.

STUDY POPULATION. A total of 104 children <18 years of age with severe allergic asthma and long-term follow-up at participating tertiary care centers who started omalizumab between January 2006 and June 2009 were enrolled.

METHODS. Baseline characteristics were collected from medical files. Data were collected prospectively during 3 separate visits, including at initial administration of omalizumab (V0), at 20 ± 4 weeks (V1), and 52 ± 4 weeks (V2). Data included the level of asthma control during the 4 weeks before each visit, exacerbations, health care utilization, pulmonary function test results, data on maintenance therapy and ICS dose, and adverse events.

RESULTS. Asthma control improved over the year of treatment with omalizumab. Rates of poor control were 82% at V0, 17% at V1, and 8% at V2, and rates of good control were 0% at V0, 53% at V1, and 67% at V2 (P < .0001). There was a 72% reduction in exacerbations and an 88.5% reduction in hospital admissions over the 1 year of treatment. There was a significant improvement in pulmonary function test results and a 30% reduction in ICS dose over the 1-year treatment. The only effect modifier observed for response to omalizumab was age (ie, age ≥12 years was associated with better control). Six patients discontinued omalizumab due to a serious adverse event.
In-School Asthma Management and Physical Activity: Children’s Perspectives
Walker TJ, Reznik M. J Asthma. 2014 May 14:1–6 [E-pub ahead of print]

PURPOSE OF THE STUDY. The goal of this study was explore children’s perspectives on in-school asthma management and barriers to physical activity at school.

STUDY POPULATION. Twenty-three 8- to 10-year-old students from 10 public elementary schools in the Bronx, New York, were interviewed. Students had physician-diagnosed asthma, with symptoms in the past 12 months, and were excluded if they had learning disabilities that would prevent interview data collection or if they had chronic medical conditions preventing them from participating in physical activities.

METHODS. A single author conducted all the interviews, which included questions about in-school physical activities, how the children felt during exercise, when the children would go to the school nurse for their asthma, and how the children felt about taking asthma medications. The interviews were recorded and transcribed. Themes and content were analyzed with the use of qualitative analysis software.

RESULTS. Although most students only had physical education class 1 to 2 times weekly, most of them also experienced asthma symptoms during these class periods, as well as during recess. Most students focused on treating asthma symptoms that had already occurred rather than preventing symptoms, and this goal was mostly through stopping activity and drinking water rather than taking asthma medication. Similarly, most students prevented symptoms by avoiding physical activity rather than by using asthma medication. Less than one-half of the students reported carrying their medications with them at school, and some thought they were not allowed to do so and needed to keep their medication with the school nurse.

In addition, most students were afraid to take their medication in front of their classmates out of fear of teasing.

CONCLUSIONS. Major barriers to asthma control in school include students being unaware of an asthma action plan or preventive measures for asthma control. In addition, students’ social concerns and lack of ready access to their medication was a barrier to successfully treating symptoms without having the students sit out of physical activity.

REVIEWER COMMENTS. This study identifies some key areas in which pediatricians can provide additional education and communication to families and schools for their patients with asthma. Talking to parents about medication-carrying policies at their children’s schools and providing an additional copy of the asthma action plan to be given to a school, as well a note to allow a child to carry an inhaler if appropriate, can go a long way to facilitating the ability of these children to participate in much-needed physical activity. Pediatricians can also try to direct more education at the children about the importance of preventing symptoms, as well as counseling parents on how to encourage their children to monitor symptoms and take preventative steps in asthma control while at school.

Invasive Pneumococcal Disease in Children Can Reveal a Primary Immunodeficiency

PURPOSE OF THE STUDY. The goal of this study was to investigate all children hospitalized in France with invasive pneumococcal disease for possible immunodeficiency.

STUDY POPULATION. A total of 163 children were hospitalized in 28 pediatric wards throughout France between 2005 and 2011.

METHODS. A French national cooperative prospectively identified hospitalized patients with invasive pneumococcal disease that was based on the isolation of *Streptococcus pneumoniae* from an otherwise sterile site. Patients with HIV disease or sickle cell anemia were excluded. Clinical and family history, as well as pneumococcal vaccination status, was documented in all patients; laboratory studies included white blood cell counts, immunoglobulin levels, complement activity, and an abdominal ultrasound. Many of the patients were also evaluated for ex vivo toll-like receptor function.

RESULTS. Among these 163 patients, 17 had recurrent invasive pneumococcal disease, and meningitis was the most frequent presentation (87%). In 1 patient, an anatomic abnormality (ie, a congenital cerebrospinal fluid fistula) was identified as the basis for the recurrent meningitis.

CONCLUSIONS. Omalizumab improved asthma control, asthma exacerbations, hospital admissions, lung function, and steroid use in children with severe allergic asthma. This medication was generally well tolerated, but there was a fraction of patients who experienced serious adverse events.

REVIEWER COMMENTS. This trial was an interesting real-life study which showed that omalizumab is an extremely effective drug for children with severe allergic asthma. This study reinforces the pediatric clinician’s knowledge and practice when using this medication for children who truly need it.

Lianne S. Kopel, MD
Wanda Phipatanakul, MD, MS
Boston, MA

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Roua Azmeh, MD
Harvey L. Leo, MD
Ann Arbor, MI

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Add-on Omalizumab in Children With Severe Allergic Asthma: A 1-Year Real Life Survey

Lianne S. Kopel and Wanda Phipatanakul

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