CONCLUSIONS. Montelukast provided significant protection for children with mild-to-moderate asthma against exercise-induced bronchoconstriction for a period of 28 days with no tolerance observed to the medication’s effects.

REVIEWER COMMENTS. The results of this study parallel those that were run in adults. Montelukast offered effective protection against exercise-induced bronchoconstriction in children as well. The study also confirmed that long-term use is not required for results to be seen, and the protection conferred does not diminish for at least a 28-day period. Longer studies up to ≥12 weeks, paralleling adult studies, are warranted for further evaluation of montelukast’s effects. This study was also limited in its sample size and involved only subjects with mild-to-moderate asthma. It would be worthwhile to determine if montelukast would be of the same benefit to severely asthmatic patients. It should be noted that approximately a quarter of the children in the study were taking inhaled steroids on a regular basis, and these patients responded to montelukast in the same way as those who were not on any such medications. This study makes a case for montelukast to be a preferential therapeutic option in children.

Antibiotic Treatment of Wheezing in Children With Asthma: What Is the Practice?
Kozyrskyj AL, Dahl ME, Unger WJ, Becker AB, Law BJ. Pediatrics. 2006;117(6). Available at: www.pediatrics.org/cgi/content/full/117/6/e1104

PURPOSE OF THE STUDY. To evaluate time trends and determinants of antibiotic use in children with wheezing episodes.

STUDY POPULATION. Children with asthma were identified from population-based health care and prescription databases in Manitoba, Canada, during fiscal years 1995–2001. Asthma was defined as at least 1 physician or hospital visit for asthma or at least 1 prescription for an asthma drug.

METHODS. In this descriptive study, using general estimating equations, annual population-based rates of antibiotic prescriptions for wheezing episodes were modeled by age and antibiotic class. Population-based rates for antibiotic use for wheezing were defined as the annual number of antibiotic prescriptions dispensed per 1000 children with asthma. Linear hierarchical rankings were used to calculate odds ratios for receiving an antibiotic prescription according to child demographics and physician factors.

RESULTS. Antibiotic prescription rates for wheezing decreased 28% from 708 prescriptions per 1000 children with asthma in 1995 to 511 prescriptions per 1000 children with asthma in 2001. However, an increase in prescriptions was observed for broader-spectrum macrolides (azithromycin and clarithromycin) in preschool-aged children (a 15-fold increase) and in all children (an eightfold increase). Immediate prescriptions (defined as within 2 days of the visit) were given in 23% of physician encounters for wheezing. Sixty-four percent of the visits resulted in an antibiotic prescription within 7 days of the visit. General practitioners prescribed antibiotics for wheezing more often than pediatricians, as did older compared with younger physicians. Physicians trained outside Canada and the United States were 40% more likely to prescribe antibiotics. Visits for younger children and visits during winter months more frequently resulted in antibiotic prescriptions.

CONCLUSIONS. Antibiotic prescription rates for wheezing episodes declined in the late 1990s, but broader-spectrum antibiotic prescription rates increased.

REVIEWER COMMENTS. Antibiotic use in asthma has gained renewed interest because of the antiinflammatory properties of certain antibiotic classes such as the macrolides. Coupled with the better-tolerated and more-convenient dosing of newer antibiotics (primarily azithromycin), they may provide a future therapeutic option in the treatment of asthma. Nonetheless, little is published about the prescribing patterns of antibiotics for wheezing and asthma. Coexisting maladies such as otitis or pneumonia are not specifically addressed in this publication but may account for the increase in prescription rates at 7 days postvisit. In addition, the possible contribution of antibiotics in the inception of asthma by participating in the “hygiene hypothesis” provides additional interest in these data. Finally, the perceived dangers of resistance with antibiotic use continue to make their use controversial in the treatment of asthma exacerbations.

Effect of Clarithromycin on Cytokines and Chemokines in Children With an Acute Exacerbation of Recurrent Wheezing: A Double-Blind, Randomized, Placebo-Controlled Trial

PURPOSE OF THE STUDY. To evaluate the effect of clarithromycin on serum and nasopharyngeal cytokine and chemokine concentrations in children with an acute exacerbation of recurrent wheezing.
Effect of Clarithromycin on Cytokines and Chemokines in Children With an Acute Exacerbation of Recurrent Wheezing: A Double-Blind, Randomized, Placebo-Controlled Trial

Alan B. Goldsobel

Pediatrics 2007;120;S145
DOI: 10.1542/peds.2007-0846XXX

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