CONCLUSION. Overall, childhood infectious diseases protected against asthma persisting in later life. Pertussis and measles, however, were associated with an increased risk of incident asthma in preadolescence and adolescence, which does not support the original hypothesis. History of pneumonia was the most relevant finding in persisting asthma in 7- and 13-year-olds.

REVIEWER COMMENTS. The authors suggest a few explanations for these results. (1) Pertussis and measles may be predisposing these individuals to pneumonia and thus increasing asthma incidence. (2) Measles virus may downregulate interleukin-12 and upregulate interleukin-4, shifting the immunity. (3) Increased incidence related to pertussis may be in part to failed pertussis immunity rather than pertussis itself; however, this was not consistent when comparing history of immunizations. This is a relevant and interesting study. The exploration of predisposing factors for asthma is important to understanding asthma. Many parents wonder if their child’s previous infections may be possible causes for their asthma, especially with no family history. We look forward to addition research comparing infectious disease to asthma risk.

Fungal Sensitization in Childhood Persistent Asthma Is Associated With Disease Severity


PURPOSE OF THE STUDY. To estimate the prevalence of fungal sensitization in moderate to severe persistent asthma and compare clinical characteristics between fungal-sensitized and non-fungal-sensitized patients.

STUDY POPULATION. Sixty-four children with moderate to severe persistent asthma were recruited from 2 academic pediatric pulmonary practices in the greater New York area between November 2010 and June 2012.

METHODS. Serum was analyzed for total and specific immunoglobulin E (IgE) for Aspergillus spp, Alternaria spp, Candida spp, Cladosporium spp, Setomelanomma spp, Mucor spp, and Penicillium spp. For purposes of the study, all IgE responses ≥0.35 kUA/L (ie, class ≥1) were considered to be indicative of sensitization. Additional screening for allergic bronchopulmonary aspergillosis (ABPA) was performed for those sensitized to Aspergillus. Pulmonary function testing had been performed as part of routine care.

RESULTS. Twenty-five of the 64 children (39%) had evidence of fungal sensitization, most class ≥2. Twenty-five were sensitized to nonfungal allergens; 14 had no sensitization. Twelve sensitized to Aspergillus had IgE levels >1000 IU, but none met diagnostic criteria for ABPA. There was no gender differences between those fungal sensitized and the others. Fungal-sensitized children had a median age of 11 compared with 9 years for the others (P = .02). Their total IgE levels were higher (1049 IU/mL vs 78 IU/mL, P < .0001). Fungal-sensitized patients had worse pulmonary function testing than nonfungal sensitized, forced expiratory volume in 1 second 81.5% versus 95.5% predicted, respectively (P = .016) with similar differences when the fungal sensitized were compared with only those sensitized to nonfungal allergens. Similar magnitudes of differences were also present for forced expiratory volume in 1 second/forced vital capacity, and forced expiratory flow 25% to 75%. Aspergillus and Alternaria were the most common fungal allergens identified (84% and 72%, respectively). Severe persistence characterized 19 of the 25 (76%) fungal-sensitized patients, whereas only 13 of 39 (33%) had been so characterized among those without fungal sensitization for an odds ratio 6.33 (95% confidence interval 2.05–19.68, P = .0014).

CONCLUSION. Fungal sensitization in childhood asthma is associated with disease severity.

REVIEWER COMMENTS. This study is consistent with the observed association of Alternaria mold as a major cause of often severe seasonal allergic asthma in the Midwest, where it has even been associated with near-fatal episodes in a report from the Mayo Clinic (O’Hollaren MT, Yunginger JW, Olford KP, et al. Exposure to an aeroallergen as a possible precipitating factor in respiratory arrest in young patients with asthma. N Engl J Med 1991;324:359–363). Although controlled clinical trials of immunotherapy for pollens provide strong support for the effective decrease in clinical sensitivity to those allergens, data for molds is much more limited despite their apparent greater importance for severe asthma.

Increased H1N1 Infection Rate in Children With Asthma


PURPOSE OF THE STUDY. In 2009, H1N1 influenza resulted in 87 000 hospitalizations among children. The most common comorbidity for patients hospitalized as a result of H1N1 infection was asthma. Were children with asthma more likely to be infected with H1N1 influenza?
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