A Synopsis of the Synopses, 2016 to 2017

This Synopsis Book reports on advances and key observations that will impact the care of children with allergic and immunologic diseases now and in the near future. Reviewers have selected articles that provide clinical pearls and insights that are applicable for daily practice as well as studies that challenge our current practice and provide data that may lead to new approaches for diagnosis and treatment.

The prevalence of allergic diseases has significantly increased in recent decades, and there is a desire to identify modifiable risk factors for developing allergic disease. Researchers in several studies have thus explored the influence of microbial exposures in early life on the risk of allergic sensitization and disease. Researchers from New Zealand reported that thumb-sucking and nail-biting behaviors in early childhood were associated with a decreased risk of atopic sensitization. Researchers in additional studies investigated the effects of environmental exposures to air pollution and tobacco smoke on the development of allergic disorders. These and other studies summarized in this synopsis demonstrate the complex interplay between environment and atopy and suggest that multiple factors work together to affect disease development.

Several highlighted studies focus on anaphylaxis and the continued need for education on preparedness and management. To further guide clinicians in the optimal management of anaphylaxis, 2 American Academy of Pediatrics (AAP) Section on Allergy and Immunology clinical reports were recently published. The first is an update to the 2007 clinical report on epinephrine for anaphylaxis, providing information regarding risk factors for this severe, potentially life-threatening reaction and detailing the role and use of epinephrine in its treatment.[1] The second discusses the role of a written, personalized allergy and anaphylaxis emergency plan to enhance the care of children at risk for allergic reactions, including anaphylaxis.[2]

Our reviewers selected a large number of studies related to food allergies. A noteworthy study consisted of a secondary analysis from the Learning Early About Peanut Allergy (LEAP) trial,[3] which reported early introduction of peanuts dramatically decreases the risk of developing a peanut allergy in high-risk infants. Feeney and co-workers[4] reported that there was no difference in breastfeeding frequency or duration, growth, or nutrition when comparing infants who either consumed or avoided peanuts in the LEAP study. Data from this pivotal LEAP trial led to the development of guidelines published this year, and endorsed by the AAP, for early introduction of peanuts.[5,6] These guidelines address different infant risk groups and provide recommendations for evaluation and an approach to peanut introduction, if indicated, according to peanut-specific skin test or immunoglobulin E test results in the higher-risk infants. These new guidelines will assist clinicians in implementing this intervention into routine practice. The evolving guidance on early peanut introduction has brought about much interest in exploring whether early introduction of other allergenic foods has similar potential for allergy prevention, and a large-scale meta-analysis and systematic review concluded that similar to peanuts, early ingestion of egg also appears to be associated with reduced risk of egg allergy. Further investigations in this area may lead to additional guidance on optimal timing for food introduction for high-risk infants.

Several studies focus on immunotherapy for food allergy, which is a rapidly growing area of research. In recent years, there has been accumulating evidence for the efficacy of oral immunotherapy for raising the threshold of reactivity to an allergen. However, questions remain regarding optimal patient selection as well as the dose, duration of treatment, and potential for treatment to provide lasting protection if therapy is discontinued. In 1 of the studies presented, researchers assessed the safety and efficacy of peanut oral immunotherapy in young children and reported a high rate of sustained unresponsiveness off treatment, suggesting that early intervention for the treatment of allergic children may be beneficial. Other investigators also examined potential predictors of adverse reactions to oral immunotherapy and explored different dosing options for egg immunotherapy.

Expanded treatment options for environmental allergies have become commercially available in recent years. In 2014, the US Food and Drug Administration approved the first sublingual tablets for immunotherapy for grass and ragweed pollens, and sublingual tablets for dust mite immunotherapy were approved this year. The

major advantages of sublingual immunotherapy (SLIT) over subcutaneous immunotherapy are the more favorable safety profiles and convenience of self-administration to patients or caregivers. In 1 study included in this Synopsis Book, researchers report on SLIT efficacy for allergic rhinitis in comparison with different pharmacologic approaches to treatment showing that SLIT had greater effects on total nasal symptom scores than montelukast and desloratadine, and another study found that SLIT for dust mite–allergic individuals can lead to improved asthma control while allowing for the dose reduction of inhaled corticosteroids.

A large number of articles pertaining to asthma were selected this year by our reviewers. Several studies draw attention to the efficacy of implementing evidence-based interventions, including environmental controls and routine preventive care, in improving asthma outcomes. In addition, the AAP Section on Allergy and Immunology recently published 2 clinical reports highlighting the importance of assessing for and providing guidance on environmental-control practice measures[7] and the use of clinical measures to optimally assess asthma control.[8]

Optimizing asthma treatment options for children will depend on different patient and disease characteristics. As a result, researchers continue to examine the efficacy and safety of inhaled corticosteroids, either alone or in combination with other medications, for different groups of asthma patients. Accumulating evidence support the benefits of using long-acting β agonists in a fixed-dose combination with an inhaled corticosteroid for improving outcomes, and this combination therapy does not appear to increase the risk of serious asthma-related events. Despite the availability of different add-on therapies, a number of children continue to have uncontrolled, severe asthma. Biologic therapies targeting inflammatory mediators may help manage this group. Additional research will aim to refine patient selection criteria and fully assess the impact of these potentially disease-modifying therapies.

On behalf our reviewers, we hope that this supplement stimulates and informs, gives you practical information to improve the care of children with allergic and immunologic diseases right away, and provides an exciting peek into novel therapies on the horizon. For additional information about our Section, please visit https://www.aap.org/en-us/about-the-aap/Committees-Councils-Sections/Allergy-and-Immunology/Pages/About-Us.aspx.

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URL: www.pediatrics.org/cgi/doi/10.1542/peds.2017–2475D

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Pediatrics 2017;140;S171
DOI: 10.1542/peds.2017-2475D

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