The atopic disorders and atopy . . . “strange diseases” now better defined!

Before the discovery of immunoglobulin E in 1968, the term atopy was coined by Coca and Cooke in 1923 in their seminal article, as they wrote:

“. . . the word atopy, was kindly suggested by Professor Edward D. Ferry of Columbia University. The Greek word ἀτοπία (atopia), from which the term was derived, was used in the sense of a strange disease. However, it is not, on that account, necessary to include under the term all strange diseases; the use of the term can be restricted to the hay fever and asthma group.”

The atopic disorders now comprise a wide array of genetically mediated allergic diseases, such as allergic rhinitis, asthma, and atopic dermatitis (AD) associated with heightened T-helper type 2 driven inflammatory responses to common allergens, especially inhaled allergens and food allergens. Included in this issue of the Proceedings are several articles that describe new features of these disorders that burden the patient and challenge the clinician. Of these chronic inflammatory disorders, AD is among the most debilitating and challenging to control, despite the use of topical and/or systemic therapies. In a recent issue of the Proceedings, Drucker provided a comprehensive review of the burden of illness, quality of life, and associated complications of AD and its exacerbations. These exacerbations are frequently characterized by seasonal variability, which if recognized, may facilitate prevention through proactive management. In this issue, Kim et al. provided insight regarding the occurrence of these seasonal variations, reporting convincing evidence that skin symptoms in children with AD are worsened in spring, fall, and winter (in comparison to summer). In a separate article, Silverberg shared insights regarding novel treatments for AD that target T-helper 2 cytokines; interleukins 4, 13, and 33; phosphodiesterase E4; and Janus kinase signaling pathways. This is a particularly timely review, given the recent approval by the U.S. Food and Drug Administration (FDA) of topical crisaborole and subcutaneous dupilumab for the treatment of AD.

In contrast to AD, targeted monoclonal antibody therapy has long been available in the form of omalizumab, the flagship biologic agent for asthma that has only recently been FDA approved for children. In this issue, Corren et al. provided a review of the pediatric data that supported the use of omalizumab, both in randomized clinical trials used for FDA registration and in real-world studies based on clinical care of children with moderate-to-severe asthma. New asthma therapies are not limited to monoclonal antibodies but also include novel inhalers, such as the multidose dry powder inhaler (MDPI), which is breath actuated and more user friendly. In this issue, Mansfield et al. reported their assessment of the safety and efficacy of fluticasone propionate (Fp) MDPI versus Fp hydrofluoroalkane and of Fp-salmeterol MDPI versus Fp-salmeterol dry-powder inhaler.

Despite advancements in asthma therapy, influenza remains a common cause of exacerbations, some of which are severe enough to require hospitalization. In this issue, Morales-Suárez-Varela et al. reported the results of a study that evaluated the association of asthma and influenza-related hospitalizations in patients ages ≥65 years in Spain. The study not only confirmed the well-documented association of asthma severity with influenza disease but also provided new data that showed that, although patients with asthma and influenza were more symptomatic, mortality was surprisingly lower compared with controls. The authors suggested that this was probably due to a better response to medical treatment.

Transitioning to the psychological association of allergic disease, Kim et al. analyzed data from 13,782 subjects who participated in the Korea National Health and Nutrition Examination Surveys. Their analysis showed that maternal depression might be a risk factor for the clinical diagnosis of asthma and AD in Korean children.

Food allergy is yet another atopic allergic disease in which parental risk perception can both impact generalized disease expression but also in which more serious fatal anaphylaxis was demonstrated previously by Ogg et al. to be correlated with anxiety and mood scores. In this issue, White et al. followed up on their previous publication and reported the results of a cross-sectional, Web-based survey that was administered to schools participating in the EpiPen4Schools program, an initiative that provides stock epinephrine autoinjectors to qualifying U.S. schools. A total of
12,275 of the 45,819 invited schools responded to the survey. Analysis of the results suggested that anaphylaxis occurred in individuals with or without known risk factors, which reinforced the need for school preparedness in both management of anaphylaxis and stocking of epinephrine autoinjectors. Because of the importance of this article and its clinically useful implications, it was chosen for this issue’s “For the Patient” section. This segment, found in the final pages of the print version of this issue and also available online, consists of a one-page, article synopsis, written in a readily comprehensible fashion to help patients better understand the content of the full article.

On the topic of allergy immunotherapy, Fajt et al. reported their 10-year experience with a novel (1 day, eight step) Modified Environmental Rush Immunotherapy protocol. The results of this study demonstrated novel risk factors for systemic reactions that may help determine optimal dosing and decrease risk.

In an article that addressed clinical pearls and pitfalls, Bartels et al. presented a case of autoimmune lymphoproliferative syndrome, followed by a discussion of the clinical characteristics, pathophysiology, diagnosis, and management of this disease. Also included within this issue is a Patient-Oriented Problem Solving “POPS” case presentation in which Ochoa et al. explored the differential diagnosis of a 28-year-old woman with fever, rash, and pancytopenia. This problem-based-learning feature of the Proceedings is, by tradition, written by an allergy/immunology fellow-in-training from one of the U.S. allergy/immunology training programs. The purpose of the POPS series is to provide an innovative and practical learning experience for the novice allergist/immunologist-in-training by using a didactic format of clinical presentation and deductive reasoning. This case illustrated the complexity of the differential diagnostic process for this clinical presentation and the importance of a detailed history, physical examination, and appropriate laboratory assessment in arriving at a correct diagnosis.

In summary, the collection of articles found within the pages of this issue provides further insight into important allergic, cutaneous, and respiratory disorders that afflict patients whom the allergist/immunologist serves. They highlight how both the beneficial and adverse effects of therapy continue to challenge the allergist/immunologist in decision-making and therapy. In keeping with the overall mission of the Proceedings, which is to distribute timely information regarding advancements in the knowledge and practice of allergy, asthma, and immunology to clinicians entrusted with the care of patients, it is our hope that the articles found within this issue will help foster enhanced patient management and outcomes. On behalf of the editorial board, we hope you enjoy the diversity of literature offered in this issue of the Proceedings.

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