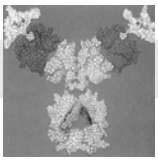

Preface

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Allergy, dubbed the "plague of the 21st century," has long been a disease on the rise. In the western world, between 1% and 8% of young children suffer from food allergy, between 5 and 30% of adolescents from asthma and approximately twice that number from allergic rhinitis [1], with numbers overall still rising rapidly especially in the young age group [2]. Therefore, the necessity to reevaluate, reconsider and reframe our concepts, our research and ultimately our clinical practices is an imperative. This theme acompanies numerous presentations and discussions at the international meeting hosted by the Israel Association of Allergy and Clinical Immunology (IAACI) in conjunction with the American College of Allergy Aasthma and Immunology (ACAAI) and Allergists for Israel (AFI), in Jerusalem, December 2008.

Also in this vein, the review of Weissler and colleagues, which looks at mast cells outside their traditional role as allergic effector cells and reevaluates their wider function in inflammatory processes [3], redefines our perception of these cells as one of the most important players in both the innate and the adaptive arms of the immune system. Understanding the biology of mast cells and other cells in the immune system can be a powerful tool in designing new drugs and new approaches for the treatment of allergic disease. Exploring such a new approach in the treatment of severe asthma is Alan Wanderer's article on the possible role of interleukin 1-beta and IL-1 pathways in the pathogenesis of severe asthma [4], and, from the pulmonary center in Denver, Colorado, Richard Martin's contribution on the treatment modalities designed to reach the distal airways of asthmatics [5]. Revamping our understanding of the true function of the inhibitor of complement component 1 (C1-INH) in the fibrinolytic system and the involvement of bradykinin in the pathogenesis of tissue edema has been the basis for the development and clinical trials of new therapeutic modalities in the treatment of the orphan disease hereditary angioneurotic edema, described in the excellent review in this issue by Reshef and colleagues [6] from the Angioedema Center at Tel Hashomer.

Allergy is also an environmental disease and vigilance is constantly required in monitoring the environment for the presence of allergenic pollens. We know from published research that minuscule amounts (1–2 ppm) of an allergen present in the air are enough to cause allergic symptoms in a sensitized individual [7]. Waisel and colleagues [8] from the Department of Aerobiology at Tel Aviv University describe the newly arrived, highly allergenic Ambrosia plant, very likely to cause significant distress for allergic individuals in Israel in the near future.

For a long time, the concept of Th1 and Th2 as opposing cells in the immune system's milieu – with Th1 cells predominantly involved in cellular immunity and antibacterial defense, while Th2 cells seemed responsible for allergic reactions and defense against helminths and parasites – has dominated our understanding of the immune system, augmented by the spreading popularity of the "hygiene hypothesis" [9]. In the past few years epidemiological data have shown that classically "Th1" driven diseases such as insulin-dependent diabetes mellitus are "on the rise" just as much if not more than the classically "Th2" dependent, such as food allergy and alergic rhinitis. Gazit and co-authors' article showing that children with IDDM while having an increased risk of suffering from additional autoimmune problems do not have a decreased risk of atopy (the tendency for developing immunoglobulin-E-mediated, Th2-mediated allergic inflammation) clearly demonstrates that the classical Th1/Th2 dichotomy is a severe oversimplification of an incredibly complex system [10].

Not forsaking the classical issues, in the attempt to refine our understanding of the natural course of allergic disease, Rottem and collaborators are pushing to improve our ability to predict the resolution of milk allergy in milk-allergic children by using the serum levels of milk-specific IgE. In their current work they found that a high level of msIgE is a reliable predictor of non-

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IL = interleukin

IDDM = insulin-dependent diabetes mellitus

Ig = immunoglobulin

msIgE = milk-specific IgE

resolution of symptomatic milk allergy in older children [11]. Also, in an effort to develop new tools for the difficult diagnosis of adverse drug reactions, specifically in multidrug exposure situations, Halevy et al. [12] take a new look at the secretion of interferon-gamma from peripheral blood lymphocytes activated by incubation with suspected drugs. With a negative predictive value of 89%, the test may be a valuable adiitional tool in the investigation of patients with multiple adverse drug reactions.

Finally, taking a sober "real life" approach to the classical tools of the trade, Zeldin et al. [13] formally document the efficacy of subcutaneous immunotherapy in the treatment of allergic rhinitis and asthma in Israeli adults. Keeping in mind that because of the perceived problems of side effects and compliance, immunotherapy is usually not the first line of treatment but actually a last resort for patients in whom medications have failed, an overall success rate of 74% with significant improvement (in the intention-to-treat analysis) and relatively few immediate systemic reactions, all successfully treated in the allergists office, is a major success, potentially altering the medical community's attitudes and perceptions of this time-tried treatment deserving of a new appreciation.

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