Allergology International. 2013;62:1-2
DOI: 10.2332/allergolint.13-ED-0541

EDITORIAL

Allergy: From History to Today

In Allergology International (AI) Vol. 62, No. 1, we have 3 Review Articles, 13 Original Articles, and 4 Letter-to-the-Editor reports. AI is publishing theme issues that include reviews in important fields of current research activity written by eminent experts. The theme of this issue is "Allergy: From History to Today."

In the first review article of this year, entitled "Mast Cells and IgE: From History to Today," I (H.S. one of the authors) would like to introduce the history of research regarding the role of mast cells and IgE in allergic diseases to the young investigators.[1]

I had been serving as a postdoctoral fellow for mast cell research under supervision of Prof. Teruko Ishizaka and Prof. Kimishige Ishizaka at Johns Hopkins University from 1986 to 1988. During discussion about the research, Dr. Teruko Ishizaka (Terry) used to tell me about the history of research regarding the role of mast cells and IgE at her office. Unfortunately, Terry has been ill and hospitalized for more than 10 years until now. So, I started to write this review article, by tracing my memory about Terry's tale. Then, I consulted by e-mail to Dr. Kimishige Ishizaka (Kimi) as to whether the content is accurate. Kimi soon sent it back to me by making some important corrections especially regarding discoveries of IgE and the receptor, while taking care of Terry in her room of the hospital.

As described in this review, IgE-dependent mast cell activation and allergic reactions have been revealed thoroughly in the past half century, since IgE was discovered. However, it seems that the mechanisms involved in non-IgE-mediated allergic diseases or non-IgE-mediated phase of IgE-mediated diseases are almost left unsolved and are waiting for devoted investigators to reveal it.

Interleukin (IL-)33 is crucially involved in non-IgE-mediated phase of IgE-mediated diseases. Nakae *et al.*[2] summarized the recent topics on the role of IL-33 in allergy, by focusing on its role in such innate-type immune cells as mast cells, basophils and natural helper cells. Tamari *et al.*[3] summarized the historical points of view and recent topics on genome-wide association studies (GWAS), which is a comprehensive and unbiased approach to identify susceptibility loci for diseases, for allergic diseases. Candidate genes in the susceptibility loci suggest roles for epithelial barrier functions, innate-adaptive immunity, IL-1 family signaling, regulatory T cells and the vitamin D pathway in the pathogenesis of allergic diseases. Interestingly, the *IL1RL1* (the receptor for IL-33), *HLA*, *IL13* and *C11orf30* regions are overlapping susceptibility loci among atopic dermatitis and asthma or allergic rhinitis.

Related to these thematic review articles, Mato, *et al.*[4] reported that IL-33 levels are increased in sera and bronchial lavage fluids in the patients with acute eosinophilic pneumonia, where antigen-specific IgE antibody is unnecessary. Like IL-33, thymic stromal lymphopoietin (TSLP) is also derived from epithelial barrier tissue, crucially involved in allergic inflammation and its gene polymorphism is frequently identified to be associated with various allergic diseases.[3,5,6] Iijima *et al.*[7] suggest that TSLP may cause asthma by promoting innate allergic responses to indoor allergens, by analyzing such clinical and genomic markers as specific IgE antibodies obtained from approximately 2,000 Japanese subjects.

As written in Instructions for Authors, such clinical trials as pharmacological interventions should be preregistered to a public registry approved by WHO, for example, www.clinicaltrials.gov, or www.umin.ac.jp/ctr/index-j.htm. This should be applied even to other interventional clinical studies in order to preclude post-hoc analysis where the authors can even select a single significant result by coincidence among various results. In this sense, the clinical trial reported by Katsunuma *et al.*,[8] where clinical trial registration number and endpoints are clearly specified, may be an ideal model.

Hirohisa Saito
Editor-in-Chief, Allergology International

REFERENCES

1. Saito H, Ishizaka T, Ishizaka K. Mast cells and IgE: From history to today. *Allergol Int* 2013;**62**:3-12.
2. Nakae S, Morita H, Ohno T, Arae K, Matsumoto K, Saito H. Role of interleukin-33 in innate-type immune cells in allergy. *Allergol Int* 2013;**62**:13-20.
3. Tamari M, Tanaka S, Hirota T. Genome-wide association studies of allergic diseases. *Allergol Int* 2013;**62**:21-8.
4. Mato N, Bando M, Kusano A *et al.* Clinical significance of interleukin 33 (IL-33) in patients with eosinophilic pneumonia. *Allergol Int* 2013;**62**:45-52.
5. Takai T. TSLP expression: cellular sources, triggers, and regulatory mechanisms. *Allergol Int* 2012;**61**:3-17.
6. Ito T, Liu Y-J, Arima K. Cellular and molecular mechanisms of TSLP function in human allergic disorders - TSLP programs the "Th2 code" in dendritic cells. *Allergol Int* 2012;**61**:35-43.
7. Iijima H, Kaneko Y, Yamada H *et al.* A distinct sensitization pattern associated with asthma and the thymic stromal lymphopoietin (TSLP) genotype. *Allergol Int* 2013;**62**:

123-30.
8. Katsunuma T, Fujisawa T, Nagao M *et al*. Effects of transdermal tulobuterol in pediatric asthma patients on long-term leukotriene receptor antagonist therapy: Results of a randomized, open-label, multicenter clinical trial in Japanese children aged 4-12 years. *Allergol Int* 2013;**62**:37-43.