Molecular nature and the phylogenetic of allergic pollens play role in allergic diseases

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Molecule nature of allergic pollens from plants was characterized but most of them are from only a few protein families. Knowledge of this pollen biology and how it is changing will be useful for prevention of allergic diseases. In this issue, Songnuan et al.¹ wrote a comprehensive review on characteristic of various plants that could produce allergenic pollens leading to allergy. The information on their phylogenetic relationship, amount of pollen and amount of protein produced in each type of pollen was discussed. The relationship of this knowledge and their role causing allergenic diseases was also documented. In another allergy topic reported by Sato et al.² is human Eosinophil Cationic Protein (ECP). It was found to be involved in enhancing of normal human dermal fibroblasts (NHDF) growth and its cytokine expression by protein array. They demonstrated that ECP, at concentration of 100 ng/mL, was not found to have cytotoxic effect, in contrast it could promote NHCF growth to produce several cytokines such as ciliary neurotrophic factor (CNTF), neutrophil- activating peptide (NAP)-2, and neurotrophin (NT)-3. In addition to those papers on allergy, two other interesting papers on infectious diseases and the immunity to such infections were also published. Sodsai et al.³ showed that the cytokine and cytokine receptor gene polymorphisms might affect the progression of chronic hepatitis B infection whereas Jinghong et al.4 demonstrated that inhaled inactivated-Mycobacterium phlei can modulate γδT cell

function and alleviates airway inflammation in a mouse model of asthma. The other research papers involving diagnostic tests in this issue are the high sensitivity and high specificity of ANA and antidsDNA for diagnosis of patients with SLE (Wichainun et al.⁵) and the normal Ig values from age- and ethnically-matched in healthy Thai children aged ≤ 24 months by high precision nephelometric assay. This Ig value is useful to appropriately diagnose immunologic disorders (Sitcharungsi et al.).⁶

References

- Songnuan W. Wind-pollination and the roles of pollen allergenic proteins. Asia Pac J Allergy Immunol. 2013;31:261-70.
- Sato T, Soga Y, Yamaguchi T, Meguro M, Maeda H, Tada J, et al. Cytokine expression in human dermal fibroblasts stimulated with eosinophil cationic protein measured by protein array. Asia Pac J Allergy Immunol. 2013;31:271-6.
- Sodsai P, Surakiatchanukul T, Kupatawintu P, Tangkitvanich P, Hirankarn N. Association of cytokine and cytokine receptor gene polymorphisms with the risk of chronic hepatitis B. Asia Pac J Allergy Immunol. 2013;31:277-85.
- Jinghong Z, Chaoqian L, Sujuan G, Yi L. Inhaled inactivated- *Mycobacterium phlei* modulates γδT cell function and alleviates airway inflammation in a mouse model of asthma. Asia Pac J Allergy Immunol. 2013;31:286-91.
- Wichainun R, Kasitanon N, Wangkaew S, Hongsongkiat S, Sukitawut W, Louthrenoo W. Sensitivity and specificity of ANA and anti-dsDNA in the diagnosis of systemic lupus erythematosus: A comparison using control sera obtained from healthy individuals and patients with multiple medical problems. Asia Pac J Allergy Immunol. 2013;31:292-8.
- Sitcharungsi R, Bunupuradah T, Pornvoranunt A, Apornpong T, Ananworanich J, Khupulsup K, et al. Immunoglobulin values in healthy Thai children aged ≤ 24 months determined by nephelometry. Asia Pac J Allergy Immunol. 2013;31:307-13.

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