

SCIENTIFIC SESSIONS ABSTRACTS

Air Pollution, Biodiversity and Climate Change in Asia: Challenges and Opportunities in the Developing World

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Impact of Air Pollution and Climate Change on Eczema

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Air pollution and climate change have influence for the increasing burden of allergic diseases, including eczema. The molecular mechanisms by which air pollutants and climate parameters may influence eczema are complex. In particular, air pollutants can act as adjuvants and alter the immunogenicity of allergenic proteins, while climate change affects the atmospheric abundance and human exposure to bioaerosols and aeroallergens. Hence, focus on the current understanding of the detrimental effects of air pollutants on eczema is discussed as well as epigenetic regulation.

CMPA: An Early Life Allergy

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Cow milk protein allergy (CMPA) is the earliest food allergy manifested in early childhood. The CMPA is considered one of the commonest food allergy worldwide, with variable prevalence. In this presentation, we will discuss the following:

• Different presentations of CMPA: case-based

- The physiology and the pathophysiology of CMPA
- The chemistry of CMPA
- History vs. Geography of CMPA
- Different guidelines and approaches for managing CMPA

Indoor Allergens and Pollutants in Taiwan

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Taiwan is located in a subtropical region with optimal environmental characteristics, such as high temperature and relative humidity that sustain the growth of molds and indoor aeroallergens. Our previous work demonstrated that 65% of children's mattresses in Taiwan's homes had Der p1 allergen levels higher than that 2 µg/g, a critical level suggested for atopic sensitization. In the following study, we measured the number of airborne, viable fungi and house dust mite (HDM) allergen levels in the homes of a group of asthmatic children. Blood samples were drawn and the amounts of total and specific serum IqE were determined. The association between the number of fungal colonies, dust mite allergen exposure, and specific and total IgE was evaluated. The number of viable airborne fungi was high (20 543 CFU/m3) in those investigated houses. Der p1 concentrations on child's mattress exceeding 2 µg/g were found in 78.6% of the houses. A quantitative doseresponse relationship was demonstrated between the exposure to viable, airborne molds and the amount of total IgE (r = 0.4399 and P = .0249) and the level was further increased in children with coexposure to viable fungi and HDM. The presence of a relation between mold exposure and total IgE increase and the very low prevalence of sensitization to mold among the children studied suggests that a major effect of mold exposure is a general stimulation of the IgE production without specific sensitization. Our further study on indoor pollutants also shown (1). The increasing risk of the length of using feeding bottle was found for children with the reporting symptom of cough at night and doctordiagnosed allergic rhinitis after adjusting for potential confounders [Cross-sectional study]. (2). Levels of indoor dust-borne DBP and BBzP as well as urinary metabolites of MBP and MEHP were associated with increasing risk of childhood allergic and respiratory morbidity after taking into account of exposure to other indoor pollutants [Prevalent case-control study]. (3). Indoor Fungi, again, was found as a critical risk factors to affect the presence of allergic or respiratory symptoms after considering for indoor chemical exposures [Prevalent case-control study].

Integrating TCI into the Treatment Armamentarium of Atopic Dermatitis

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Atopic dermatitis (AD) is a chronic inflammatory skin disease that usually begins in the first few years of life. It is featured by dry skin, intense itchiness and inflammation that progresses through repeated cycles of remission and exacerbation, and can cause a substantial emotional and financial burden for families of affected children.

Recent clinical guidelines have highlighted that the aim of AD treatment is not only for acute flare up management, but also the prevention of early manifestations of the disease and its evolution to severe conditions.

Proactive therapy, a preventive intermittent application method, has achieved excellent clinical results in preventing the exacerbation of AD with tolerable long term side effects.

This approach starts with an intensive topical anti-inflammatory therapy (daily topical corticosteroid or topical calcineurin inhibitor) until all lesions have almost cleared, followed by long-term, low dose intermittent application of the anti-inflammatory therapy i.e. 2-3 times weekly of topical calcineurin inhibitor / corticosteroid to the "AD hotspots", previously affected skin along with daily skincare routine including the application of emollients to unaffected areas.

Since prolonged use of topical corticosteroid often followed by significant side effects, integrating topical calcineurin inhibitor is a good strategy to achieve long term remission.

Allergic Rhinitis and Asthma: The One Airway Disease

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Allergic Rhinitis and Asthma, once thought to be separate entities are now found to be intimately related. Allergic inflammation localized in the upper airways will trigger similar response in the lower airways and vice versa. This talk will discuss the evidence for the one airway concept, role of viral infections, prevention strategies and therapeutic approaches.

Impact of Air Pollution on Allergic Rhinitis

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Geriatric Respiratory Allergy: Lessons from KLoSHA Cohort

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Population aging is a global issue, especially in Asia. Asthma, one of most common chronic respiratory allergic disease which affects the quality of life and could be even life-threatening, can occur in any age. The prevalence of asthma has two peaks – in childhood and in the elderly. Elderly asthma has different features from childhood asthma and is increasing in the Asia-Pacific region. The prevalence of elderly asthma is 6.8~12.7% in Korea. The socioeconomic burden of asthma is especially high in the elderly. Risk factors of asthma could be atopy, airway hyperresponsiveness, smoking, obesity, and so on. Sensitization to inhalant allergens showed a different feature in the elderly. Interestingly atopy may not be the risk factor for elderly asthma. Recent studies showed that the sensitization to Staphylococcal enterotoxin and other proteins such as serine protease like protein D could be risk factors for elderly asthma. Disturbance of regulatory T cell subpopulations and microbial changes may be involved in the pathogenesis of the elderly asthma. Microbiome studies showed different features in young and in the elderly.

Rhinitis is common in the elderly. Epidemiologic studies showed the different sensitization pattern of inhalant allergens and the prevalence of allergic rhinitis according to urbanization.

Common causes of Chronic cough are upper airway cough syndrome (postnasal drip syndrome), asthma, eosinophilic bronchitis, and gastroesophageal reflux diseases. Three of the common causes are related allergic diseases.

In the era of population aging, it is important for us to prepare for the allergic diseases in the elderly.

Systemic Lupus Erythematosus - The Rising Imitator

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Systemic lupus erythematosus (SLE) is an autoimmune disease which can affect multiple organs and presented with signs and symptoms related to the involved organs. SLE shown to be more prevalent in female of reproductive age (20 – 40 years old) with certain ethnicity such as African-American and Hispanic shown to be more prone to the disease. SLE incidence and prevalence shows an increasing trend both in developed and developing countries. Data from the universal health coverage of Indonesia shows an increasing trend of prevalence and incidence of SLE across the country. One of the most concerning hurdle in SLE is the diagnosis of the disease itself as the disease commonly manifest vaguely and immitate other diseases. General practitioner should increase the awareness of possibility of SLE in patients as most of SLE cases in Indonesia were reffered to immunologists when they were in a severe complication state of SLE. The Systemic Lupus Erythematosus International Collaborating Clinics (SLICC) established diagnosis criteria in 2011 which helps clinicians in diagnosing SLE. Management of SLE has been evolving and largely depends on the organ involved. Immunosuppressant, corticosteroid, antimalarial drug and photoprotection were the backbone of management in SLE and should be communicated with the patient at the initiation of the regiment.

New Solution for House Dust Mite Allergic Rhinitis and Allergic Asthma Dr Ticha Rerkpattanapipat