E-PROGRAMME AND ABSTRACTS BOOK

MSAI

ANNUAL CONGRESS 2023

22nd Malaysian Congress and Exhibition on Allergy and Immunology 2023

Strengthening Your Core Knowledge in Allergy & Immunology

17th - 19th March, 2023

InterContinental Kuala Lumpur, Malaysia

20 CPD Points Awarded

ORGANISED BY

Malaysian Society of Allergy and Immunology (MSAI)
(Persatuan Alergi dan Imunologi Malaysia)
Registration No. PPM-007-14-05051997

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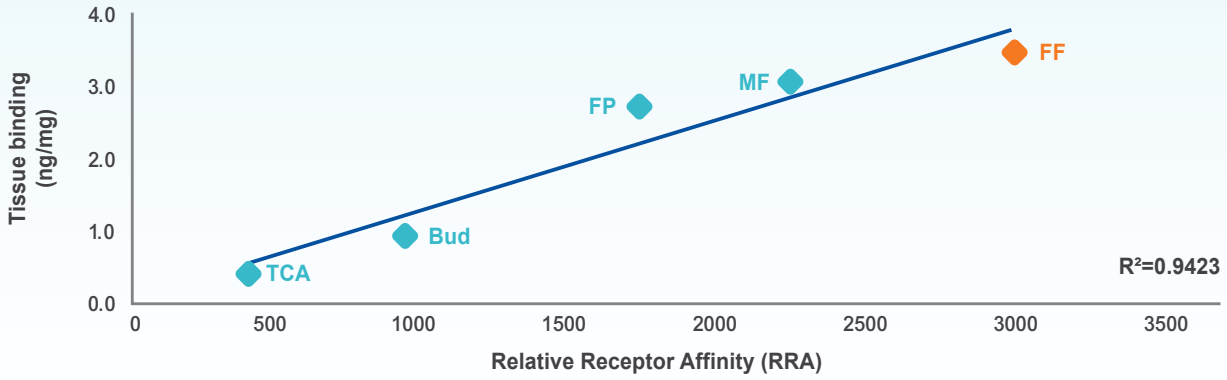
How is Avamys different from other INCS?

Choose the latest **INCS molecule (FF)** launched in the market

Avamys (FF) has the highest glucocorticoid receptor affinity and strongest tissue binding compared to other INCS[1-4]

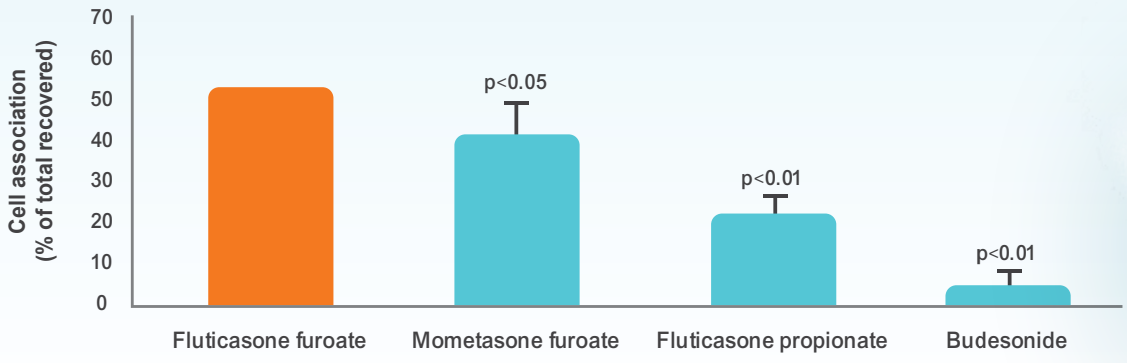
Relationship between glucocorticoid receptor affinity and binding to human nasal tissue (the coefficient of correlation was r=0.971 [p≤0.01])*[1]



The graph was first published in Villa E, *et al. Expert Opin Pharmacother* 2011.[1]
The graph has been independently created by GSK from information in the publication.
**In vitro data* - clinical significance is unknown.

Long tissue retention of Avamys (FF) enhances its duration of action[5]

Retention of glucocorticoids*[4]



The graph was first published in Salter M, *et al. Am J Physiol Lung Cell Mol Physiol* 2007.[4]
The graph has been independently created by GSK from information in the publication.
**In vitro data - clinical significance is unknown.*
*** The greater duration of action was due to sustained potency in cellular assay.*

Avamys
Fluticasone furoate
Stays where it sprays

Bud: Budesonide; **FF:** Fluticasone Furoate;
FP: Fluticasone Propionate; **INCS:** Intranasal Corticosteroid;
MF: Mometasone Furoate; **TCA:** Triamcinolone

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APAAACI Symposium

18th March, 2023
0930 hrs - 1030 hrs

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Chairperson: *Dr Kent Woo Chee Keen*

Microbial Signatures in Allergic Diseases in Early Life: Environmental Influences and Road to Prevention

Prof Dr Ruby Pawankar

Allergy as the Sentinel Measure of Planetary Health in the Anthropocene Epoch

Dr Amir Hamzah Bin Dato Abdul Latiff

Q & A

Register Link:

https://allergymsai.org/events/22nd-MSAI-Congress/22nd-MSAI-Scientific-Programme-v5.pdf

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SCIENTIFIC PROGRAMME

DAY ONE

17th March 2023 (Friday)

08.15am - 08.30am	**Welcome Address** *by Dr Kent Woo Chee Keen, President of MSAI*
08.30am - 09.30am	**Meet The Experts** *Chairperson: Dr Kent Woo Chee Keen* An Interactive Question and Answer Session on the Leading Topics in Allergy and Immunology *Dr Amir Hamzah Bin Dato Abdul Latiff & Prof Dr Baharudin Bin Abdullah*
09.30am - 10.30am	**Symposium A | *Basic Sciences in Allergy*** *Chairperson: Assoc Prof Dr Kavita Reginald* Cockroach Allergy - Current Understanding and Therapeutic Options *Assoc Prof Dr Kavita Reginald* Molecular Allergology: Current Understanding in Clinical Practice *Dr Siti Mardhiana Binti Mohamad* Disruption of Nasal Epithelial Barrier in Allergic Rhinitis: Pathogenesis Revisited *Dr Norasnieda Md Shukri*
10.30am - 11.00am	**COFFEE BREAK**
11.00am - 12.00noon	**Focus Topics in Dermatology** *Chairperson: Assoc Prof Dr Kavita Reginald* Interactions Between Atopic Dermatitis and Staphylococcus Aureus Infection: Clinical Implications and Interventions *Dr Kent Woo Chee Keen* *(Facilitated by Hyphens Pharma Sdn Bhd)* What is New in the Treatment of Psoriasis? *Assoc Prof Dr Henry Foong Boon Bee*
12.00noon - 01.30pm	**Lunch Sponsored Symposium** *Chairperson: Mr SP Palaniappan* Reshaping the Delivery of Allergic Rhinitis Care: Learnings from the COVID-19 Pandemic *Prof Dr Baharudin Bin Abdullah* *(Facilitated by Bayer Co (M) Sdn Bhd)*
01.30pm - 02.00pm	**Symposia: The Immune System of the GI Tract** *Chairperson: Dr Ang Siang Chie* Primary Prevention of Food Allergy: Avoidance or Early Introduction *Dr Kent Woo Chee Keen*
02.00pm - 02.30pm	Antibiotic Associated Diarrhea in Children *Dr Khoo Phaik Choo* *(Facilitated by Taisho Pharmaceuticals Group)*

12.00noon - 01.30pm
(Friday Prayers)

SCIENTIFIC PROGRAMME

DAY ONE

17th March 2023 (Friday)

02.30pm - 03.30pm	**Workshop: Airway Disease** *Chairperson: Assoc Prof Dr Farah Dayana Zahedi* Combination Approach for Allergy Rhinitis Management *Prof Dr Baharudin Bin Abdullah* *(Facilitated by Glenmark Pharmaceutical (M) Sdn Bhd)*
03.30pm - 04.00pm	**COFFEE BREAK / POSTER PRESENTATION 1**
04.00pm - 04.30pm	**Focus Topics in Allergy** *Chairperson: Assoc Prof Dr Intan Hakimah Ismail* Navigating Asthma Care Across Different Severities *Assoc Prof Dr Andrea Ban Yu-Lin* *(Facilitated by Astra Zeneca)*
04.30pm - 05.00pm	Drug Allergy De-Labeling in Clinical Practice *Prof Dr Philip Li*
05.00pm - 06.30pm	*Moderator: Dr Ahmad Rosli* Nutritional Proposition for Age-Related Immunity and Mobility Decline *Prof Dr Suzana Binti Shahar* Q & A **Panel Discussion** *Chairperson: Assoc Prof Dr Kavita Reginald* "Hero Nutrients and Advancing Public Health in The Local Setting" *Prof Dr Suzana Binti Shahar & Dr Feisul Idzwan Mustapha* *(Facilitated by Mead Johnson Nutrition (Provital))*

The Organising Committee reserves the right to make changes to the programme as and when necessary.

SCIENTIFIC PROGRAMME

DAY TWO

18th March 2023 (Saturday)

08.15am - 08.30am	**Announcements**
08.30am - 09.30am	**Keynote Lecture** *Chairperson: Prof Dr Salina Husain* The Singapore/Malaysia Cross-Sectional Genetic Epidemiology Study (SMCGES) Cohort for Allergic Diseases: Prevalence, Patterns and Risk Factors *Assoc Prof Dr Chew Fook Tim*
09.30am - 10.30am	**APAAACI Symposium** *Chairperson: Dr Kent Woo Chee Keen* Microbial Signatures in Allergic Diseases in Early Life: Environmental Influences and Road to Prevention *Prof Dr Ruby Pawankar* Allergy as the Sentinel Measure of Planetary Health in the Anthropocene Epoch *Dr Amir Hamzah Bin Dato Abdul Latiff* Q & A
10.30am - 11.30am	**COFFEE BREAK / 26TH ANNUAL GENERAL MEETING OF MALAYSIAN SOCIETY OF ALLERGY AND IMMUNOLOGY (MSAI)**
11.30am - 12.30pm	**Allergic Rhinitis and Its New and Safe Testing Methods** *Chairperson: Assoc Prof Dr Aneeza Khairiyah W Hamizan* Nasal Allergen Provocation Test *Assoc Prof Dr Aneeza Khairiyah W Hamizan* Nasal Nitric Oxide in Allergic Rhinitis with or without Asthma *Assoc Prof Dr Farah Dayana Zahedi* Allergic Rhinitis with Eczema: Role of Immunotherapy in Selected Cases? *Prof Dr Salina Husain*
12.30pm - 02.00pm	**Lunch Sponsored Symposium** *Chairperson: Dr Amir Hamzah Bin Dato Abdul Latiff* An Effective Approach to Managing Chronic Urticaria in Children and Adults *Assoc Prof Dr Henry Foong Boon Bee* *(Facilitated by A.Menarini Singapore Pte Ltd)*
02.00pm - 03.00pm	**Allergic Eye Disease** *Chairperson: Dr Hazlita Dato' Mohd Isa* Pathogenesis and Clinical Signs and Symptoms *Dr Malisa Ami* Treatment Options and Complications *Dr Hazlita Dato' Mohd Isa* Case Presentation and Discussion *Dr Aida Zairani Mohd Zahidin*

SCIENTIFIC PROGRAMME

DAY TWO

18th March 2023 (Saturday)

03.00pm - 04.00pm	*Chairperson: Assoc Prof Dr Farah Dayana Zahedi* Everything You Need to Know About Malaysia 1st AIT Consensus *Prof Dr Baharudin Bin Abdullah* *(Facilitated by Abbott Laboratories)*
04.00pm - 04.30pm	**COFFEE BREAK / POSTER PRESENTATION 2**
04.30pm - 05.30pm	**Workshop on SPT and Specific IgE** *Chairperson: Dr Siti Mardhiana Binti Mohamad* Diagnosing Allergies through Blood Tests, Prick Tests and Patch Tests. What is the Difference? *Dr Shahjahan Kassim*
05.30pm - 07.00pm	**Type 2 Inflammation as Seen in Clinical Setting** *Chairperson: Dr Kent Woo Chee Keen* Impact on Atopic Dermatitis *Dr Bong Jan Ling* Impact on Asthma *Dr Wong Chee Kuan* Q & A *(Facilitated by Sanofi)*

SCIENTIFIC PROGRAMME

DAY THREE

19th March 2023 (Sunday)

08.15am - 08.30am	**Announcements**
08.30am - 09.30am	**Immunology / PID** *Chairperson: Dr Intan Juliana Ab Hamid* Subcutaneous Immunoglobulin for PID in Need: The Way Forward *Assoc Prof Dr Adli Bin Ali* Non-Infectious Manifestations of PID *Dr Sangeetha Siniah*
09.30am - 10.30am	**Immunology / PID** *Chairperson: Dr Faizah Mohamed Jamli* Bone Marrow Transplant for PID: Who Needs It? *Dr Intan Juliana Ab Hamid* HSCT for PID in Malaysia: Successes and Challenges *Prof Dr Hany Mohd Ariffin*
10.30am - 11.00am	**COFFEE BREAK / POSTER PRESENTATION / AWARD CEREMONY**
11.00am - 12.00noon	**Immunology / PID** ***Symposium C (PID with Disease of Immune Dysregulation)*** *Chairperson: Dr Sangeetha Siniah* Autoimmunity in PID *Assoc Prof Dr Intan Hakimah Ismail* PID Associated with Very Early Onset of IBD *Dr Ong Sik Yong*
12.00noon - 01.30pm	**Lunch Sponsored Symposium** *Chairperson: Dr Kent Woo Chee Keen* Intranasal Corticosteroids: Topical Potency, Systemic Activity and Therapeutic Index *Dr Desiree Larenas-Linnemann* *(Facilitated by GlaxoSmithKline Pharmaceutical Sdn Bhd)*

SCIENTIFIC SESSIONS ABSTRACTS

Abstracts from the Scientific Programme.
Abstracts submitted by the speakers have been included as received.
MSAI assumes no responsibility or liability for any errors or omissions in the contents.

COCKROACH ALLERGY - CURRENT UNDERSTANDING AND THERAPEUTIC OPTIONS

Assoc Prof Dr Kavita Reginald
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Cockroaches have been reported to be an important risk factor for the development of allergic diseases. Individuals belonging to lower socio-economic environments, particularly children and young adults are at a higher risk compared to the general population of developing allergies upon exposure to cockroach allergens. In Malaysia, cockroach allergens are the second most important source of allergens after dust mites. However, the current management/treatment for allergies caused by cockroach allergens is limited to pest management strategies, antihistamines, or asthma relievers. Immunotherapy is the only treatment option that can modulate the allergic immune response, thereby providing long-lasting symptomatic relief while reducing medication intake. However, there are several limitations to the present cockroach immunotherapy protocol, such as its long duration, difficulty in standardization, and the risk of adverse effects. Studies done in different populations with the component-resolved diagnosis of individual cockroach allergens suggest the lack of any immuno-dominant allergen, which further hampers efforts in the standardization of major allergens within the cockroach extracts, or as a target molecule to be developed for immunotherapy. Future developments in cockroach immunotherapy would therefore require a personalized medicine approach, starting with precision diagnosis to correctly identify the molecular allergen signature of an affected individual, followed by precision (immuno) therapy. Presently, modified allergens either in the form of hypoallergens, peptides, or epitope fragments have been shown to provide a more specific immune modulation with fewer adverse effects in the pre-clinical stage. A combination of engineered cockroach allergens coupled with suitable adjuvants and delivery systems has the potential to improve the patient's tolerance against cockroach allergens, with a shorter treatment regimen devoid of adverse effects.

MOLECULAR ALLERGOLOGY: CURRENT UNDERSTANDING IN CLINICAL PRACTICE

Dr Siti Mardhiana Binti Mohamad
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Molecular allergology is defined as an approach to allergy diagnostics in which a single allergen components are used for detection of specific IgE, instead of the traditionally used of whole allergen extracts. This approach enables to pinpoint on an exact molecular level which component the patient is sensitized to. This information provides the basis for a refined, earlier diagnosis of the allergic reactions and ultimately for an individualized management of the patients, whereby shows an excellent example of how allergy is linked to precision medicine. Currently more than one thousand of allergenic molecules from diverse allergens have been identified and purified. From these, more than 100 molecules have already been developed as diagnostic reagents for routine use in clinical practice. Component resolved diagnosis (CRD) is the tool used to measure the specific IgE against the single allergens component and it is available either in a singlepex or multiplex form. In my talk, I will discuss on the current understanding of this molecular allergology or also known as component resolved diagnostics in clinical practice, covering on the u shaped approach and the purpose of utilizing the molecular diagnostics and their limitations.

DISRUPTIONS OF NASAL EPITHELIAL BARRIER IN ALLERGIC RHINITIS: PATHOGENESIS REVISITED

Dr Norasnieda Md Shukri
Department of Otorhinolaryngology
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INTRODUCTION

Allergic Rhinitis (AR) is a symptomatic disorder of the nose induced by an immunoglobulin E (IgE)-mediated inflammation after allergen exposure of the membranes lining the nose, and it is usually accompanied by classical symptoms such as nasal itching, sneezing, rhinorrhea, and nasal congestion. Nasal epithelial barrier constitutes the first line of defence against invasion of harmful pathogens or aeroallergens. Cell junctions comprising of tight junctions (TJs), adherents' junctions, desmosomes and hemidesmosomes form the nasal epithelial barrier. Impairment of TJ molecules play causative roles in the pathogenesis of AR.

METHODS

Literature review on mechanism of TJ disruptions that lead to AR.

RESULT

Several mechanisms has been highlighted such as disruption of TJ component of occludin and claudin by house dust mites, air pollution with TJ disruption and epithelial cell derived cytokines.

CONCLUSION

Impairment of nasal epithelial barrier through the loss of TJs expression contributes to the development of AR. Barrier defects are the results of multiple exogenous (e.g., air pollution, HDMs) and endogenous (e.g., cytokines, neuroimmune-epithelial interaction, epigenetics) triggers trapping the epithelium in a diseased state contributing to AR development, and protection of the nasal epithelial barrier integrity through restoring TJs expression is a promising therapeutic approach for AR patients.

INTERACTIONS BETWEEN ATOPIC DERMATITIS AND STAPHYLOCOCCUS AUREUS INFECTION: CLINICAL IMPLICATIONS AND INTERVENTIONS

Dr Kent Woo Chee Keen
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(Facilitated by Hyphens Pharma Sdn Bhd)

The atopic dermatitis skin (AD) is prone to infections. Susceptibility includes viruses such as molluscum and herpes simplex, fungus, and bacteria especially staphylococcus aureus.

Staph aureus (SA) has established itself as a major contributor towards the pathogenesis of atopic dermatitis and a major trigger for atopic dermatitis disease flare. Approximately 90% of AD patients are colonized with SA, involving even normal appearing AD skin. A key discovery found that Th2 cytokines, IL-4 and IL-13 found abundant in AD skin suppresses the expression of anti-microbial peptides as compared to normal skin. This allows for easy colonization and infections by pathogens.

We now understand that the skin barrier consists of not only the physical barrier but involves the underlying immunological barrier interacting with the skin surface microbiome with the production of a chemical barrier consisting of antimicrobial peptides. It is a delicate balance in which disruption of the microbiome that leads to decrease microbial diversity can lead to AD flare. Measurements of microbiome diversity can predict AD flares before it happens with decreasing diversity closely correlating with a spike in SA numbers.

Studies found that normal commensals that are protective against SA are deficient in AD skin. These commensals can produce antimicrobial peptides that suppress SA growth and can be transplanted to AD skin to protect against SA. An often lingering question is why SA can be found in normal appearing AD skin and yet not cause any flares. Recent evidence has demonstrated that the virulence factor produced by S. aureus, phenol-soluble modulin α can promote skin inflammation in mice. Clinical isolates of different coagulase-negative staphylococci (CoNS) species residing on normal skin produced autoinducing peptides that inhibited the S. aureus agr system, in turn decreasing PSMα expression. These autoinducing peptides from skin microbiome CoNS species potently suppressed PSMα expression in S. aureus isolates from subjects with AD without inhibiting S. aureus growth. Thus the microbiome can work to suppress SA either through reducing its virulence or reducing its numbers. More work will need to be done so that we can utilize existing microbiome or transplant an effective microbiome to AD skin to modify the disease.

Another strategy in modifying the AD skin barrier function is through lowering the skin pH. The acidic skin pH plays an integral role in maintaining the physical barrier by suppressing skin serine proteases. External application of lactobionic acid lowered the skin pH and improved antimicrobial peptide expression, decreased transepithelial water loss and improved stratum corneum hydration. Ceradan Advance is a patented novel barrier cream that contains zinc lactobionic acid with a lactobionate buffer to sustainably lower skin pH. Restoration of the disrupted AD skin barrier and lowering of the skin pH should lead to better clinical outcomes. More studies should be conducted to look into this novel approach and its interaction with the skin microbiome diversity and how it modifies SA colonization.

WHAT IS NEW IN THE TREATMENT OF PSORIASIS

Assoc Prof Dr Henry Foong Boon Bee
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Psoriasis is a chronic immune-mediated disease with predominantly skin and joint manifestations. It affects more than 125 million population worldwide. The prevalence is approximately 2% of the population. The age of onset occurs in two peaks: ages 20-30 and 50-60 but can be seen at any age. There is a strong genetic component. About 30% of patients with psoriasis have a first-degree relative with the disease.

The classification of psoriasis is based on its morphology. The plaque type is a well circumscribed scaly, erythematous plaques while the inverse/flexural type are lesions are located in the skin folds. The guttate type typically has an abrupt onset of small papules and plaques in a young patient with recent streptococcal infection. The erythrodermic type has generalized erythema and scaling involving nearly entire body surface area. The acute generalized pustular psoriasis (GPP) is a rare skin disorder with flares of widespread sterile pustules in a background of generalised erythema and inflammation, the pustules often coalesce together to form lakes of pus. The patient is generally ill, febrile and malaise.

During the early days, psoriasis was regarded as an epidermal disease in which the cell involved was the keratinocyte. Epidermal hyperplasia in psoriasis was first observed in 1963, when Van Scott noted a significant increase in mitoses of psoriatic epidermis. Major paradigm shift occurred when cyclosporin were found to result in improvement of psoriasis in 1980s. Cyclosporine which acts specifically on T helper cells suppresses the development of psoriasis is evidence of immune system involvement.

Psoriasis vulgaris is an immune mediated disease Th-1/Th-17/Th-22 caused by T-cells and associated cytokines. The T cell activation starts with 2 autoantigen LL-37 and ADAMTSL5. Dendritic cells produces high level of IL-12 and IL-23. This drives Th-1, Th-17 and Th-22 cells, activate their cytokines and keratinocytes producing the inflammatory mediators. IL-17 act on keratinocytes to produce chemokines, AMP and CCCL20.

All therapies that improve psoriasis reduce expression or signaling of this immune response axis. Our understanding of psoriasis and ability to treat this disease has evolved tremendously in the past few decades. The traditional therapeutic options available included topical agents, PUVA, NB-UVB Phototherapy, and systemic agents such as methotrexate, cyclosporin, and retinoids.

Biologic agents are important new treatment options for moderate to severe plaque psoriasis. The available biologics have excellent short term and long-term efficacy and safety profiles. The newer agents that use this immune response are TNFα inhibitors (adalimumab/infliximab), IL-12/IL-23 inhibitors (ustekinumab), IL-17 Inhibitors (secukinumab/ixekixumab/brodalumab) and IL-23 Inhibitors (guselkumab/risankizumab). There are other emerging treatments for psoriasis. These are small molecules that target the interruption of the cellular signaling. Such signaling are critical to propagate the inflammatory response. Examples of such are the JAK inhibitors.

RESHAPING THE DELIVERY OF ALLERGIC RHINITIS CARE: LEARNINGS FROM THE COVID-19 PANDEMIC

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(Facilitated by Bayer Co (M) Sdn Bhd)

PRIMARY PREVENTION OF FOOD ALLERGY - AVOIDANCE OR EARLY INTRODUCTION

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The past few decades have witnessed an increase in the prevalence of IgE-mediated food allergy. In many countries, food allergy (FA) is now considered a significant public health concern, affecting 3% to 6% of children in the developed world. Studies have shown that severe atopic dermatitis is a risk factor for the development of food allergy and the allergy has developed prior to consumption of the offending food. Dual-allergen exposure hypothesis suggests that early cutaneous exposure to food protein through a disrupted skin barrier leads to allergic sensitization, whereas early oral exposure to food allergen induces tolerance.

A cross-sectional study of Israeli and UK Jewish children found that the prevalence of peanut allergy was 10-fold higher in the UK (1.85%) than in Israel (0.17%). The study suggested that the difference in outcomes was because peanut was introduced earlier, eaten frequently and in larger quantities in Israel than in the UK.

The LEAP study was a randomized controlled trial designed to assess whether early introduction of peanut can prevent peanut allergy. Infants either consumed peanut products at least 3 times a week (total of 6g of peanut protein weekly or completely avoided peanut until 60 months of age. The study demonstrated that in high-risk atopic infants, sustained peanut consumption initiated in the first 11 months of life resulted in a substantial reduction in the proportion of children with peanut allergy at 60 months of age compared with children who avoided peanut. The intention to-treat analysis found that 17.2% of the peanut avoidance group had food challenge–proven peanut allergy at 60 months of age compared with 3.2% of the peanut consumption group.

The Enquiring About Tolerance (EAT) study was a randomized trial of the early introduction of allergenic solids into the infant diet from 3 months of age. Adherences to the early introduction protocol were low, which led to a finding of non-significant reduction in IgE-mediated food allergy. However, in the per-protocol analysis, the rate of the primary outcome was significantly lower in the early-introduction group than in the standard introduction group (2.4% [5 of 208 participants] vs. 7.3% [38 of 524]). The relative risk in the early-introduction group was 0.33 (95% CI, 0.13 to 0.83; $P = 0.01$), representing a prevalence that was 67% lower than that in the standard-introduction group

Due to the experience of the EAT study, where there was difficulty in adherence to early introduction of allergenic foods, a premade multi-food allergens introduction was studied for its efficacy in food allergy prevention. The study demonstrated that infants at either high or low risk for atopy were able to tolerate the early introduction of multiple allergenic foods with no safety issues. Regular daily dosing of small amounts of mixed food proteins was key to the success of this study. In comparison to the EAT study where the mixture of allergens was self-prepared with dosing/serving size variations, a premixed allergens offered convenience with reduction in variability of consumption and dosing. It also demonstrated better efficacy in food allergy prevention in those individuals fed with the multiple mixture vs. single and vs. double as early introduction.

The current evidence is very convincing that early introduction of allergenic foods can prevent food allergy, it looks like introduction of more than one allergenic food at a time may mimic a more natural form of traditional feeding practiced in the past. More studies are needed to determine a suitable method that is both effective and convenient for use.

ANTIBIOTIC ASSOCIATED DIARRHEA IN CHILDREN

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(Facilitated by Taisho Pharmaceuticals Group)

COMBINATION APPROACH FOR ALLERGY RHINITIS MANAGEMENT

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(Facilitated by Glenmark Pharmaceutical (M) Sdn Bhd)

NAVIGATING ASTHMA CARE ACROSS DIFFERENT SEVERITIES

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(Facilitated by Astra Zeneca)

Asthma is a chronic disease of the airway which occurs worldwide. The characteristics are well known and are that of a variable airflow obstruction which causes the typical symptoms of intermittent shortness of breath and wheezing. Most patients can achieve good control with accurate diagnosis and appropriate treatment. The diagnosis requires demonstration of a reversible airway obstruction and treatment consists of bronchodilators and inhaled corticosteroids. To classify the degree of severity of asthma, it is important to evaluate how the patients respond to controller therapy i.e. inhaled corticosteroids (ICS) and long-acting beta 2 agonists (LABA). Mild asthma is common and often overlooked. The SABINA study has highlighted that SABA over-prescription of three or more canisters over a period of 12 months is associated with an increased in asthma exacerbations. This over prescription occurs over all stages of severity of asthma.

Severe asthma is asthma which remains uncontrolled despite conventional treatment of medium to high-dose ICS combined with LABA and or oral corticosteroids. Whilst the estimated prevalence is around 5 to 10% of the population, patients with severe asthma are a challenge to treat.

Eosinophils which have been described almost 150 years ago have emerged as a hallmark of severe inflammation for severe asthma. IL-5 is the cytokine responsible for the differentiation, maturation, airway trafficking as well as survival of eosinophils. Ig-E also plays an important part in the inflammatory cascade, it activates mast cells, macrophages and basophils and causes production of histamine and other inflammatory cytokines.

The introduction of biologic therapies such as anti-IL-5 treatment (Mepolizumab, Reslizumab), anti-IL-5 alpha therapy (Benralizumab), anti-IL-4 therapy (Dupilumab) , anti-Ig-E therapy (Omalizumab) as well as thymic stromal lymphopoietin (TSLP) inhibitors has led to improvement in the treatment of severe asthma indicating a move towards precision medicine. It is important to remember that to consider treatment with biologic, it is fundamental to first confirm the diagnosis identify correctable issues such as adherence, improper inhaler technique and treating the comorbid conditions.

DRUG ALLERGY DE-LABELING IN CLINICAL PRACTICE

Prof Dr Philip Li
School of Clinical Medicine
The University of Hong Kong
Vice President Hong Kong Institute of Allergy
Hong Kong

Drug allergy is a common problem worldwide problem: In Hong Kong, up to 7% of the entire population's medical records having a suspected drug allergy label. The most common drug allergy label are to penicillin or beta-lactam antibiotics. Incorrect penicillin labels are known to be associated with higher healthcare costs, as well as a myriad of negative clinical consequences - such as development of multi-drug resistant organisms and even increased mortality! Traditionally, allergists can perform various drug allergy testing to help "delabel" inaccurate allergies and rescue medication choices for patients - greatly enhancing patient care, outcomes and - in the case of antibiotic delabelling - antimicrobial stewardship. Despite these indisputable benefits, expertise and specialist care for Immunology & Allergy remains extremely limited.

Investigations into suspected drug allergies include both bedside in-vivo and bench in-vitro tests. Such tests are complimentary and indispensable. However, given the lack of expertise and constantly-growing Immunology Clinic queues, strategic utilization of such precious resources are needed. To tackle these growing problems, novel strategies to optimize drug allergy workup are needed - one example is the partnership with non-allergists in a multi-disciplinary initiative toward drug allergy delabelling - The Hong Kong Drug Allergy Delabelling Initiative (HK-DADI).

In this session, the epidemiology, approach and experiences in clinical drug allergy testing will be discussed. Novel approaches to tackle the drug allergy pandemic, especially with examples with penicillin allergy delabelling will also be highlighted. We will also review Hong Kong's experience and approach on the role of non-allergists to perform penicillin allergy testing and its recent implementation.

NUTRITIONAL PROPOSITION FOR AGE-RELATED IMMUNITY AND MOBILITY DECLINE

Prof Dr Suzana Binti Shahar
Centre for Healthy Aging
University Kebangsaan Malaysia
Kuala Lumpur, Malaysia

Prof Suzana's talk will focus on the issue of immunity that comes with age and prevalence in Malaysia, as well as the issue of age-related mobility and its prevalence in the country. Prof Suzana's talk will also focus on immune-related nutrients for age-related immune response decline and strength-related nutrients for age-related mobility decline. In addition, Prof Suzana's talk will shed light on the immunomodulating benefits of yeast beta glucan for adults and elderly for inflammatory diseases - including clinical evidence.

THE SINGAPORE/MALAYSIA CROSS-SECTIONAL GENETIC EPIDEMIOLOGY STUDY (SMCGES) COHORT FOR ALLERGIC DISEASES: PREVALENCE, PATTERNS AND RISK FACTORS

Assoc Prof Dr Chew Fook Tim
Department of Biological Sciences
National University of Singapore
Singapore

INTRODUCTION

Allergic diseases such asthma, allergic rhinitis and atopic dermatitis, are becoming relatively common around the world. Besides the detriment to standard of living and economic burden, both multicentre and single-cohort studies have observed increase in these diseases in Asia especially in urban settings over time.

METHODS

In total, 18,260 individuals, with mean age 22 years (standard deviation 5 years), were recruited from universities in Singapore and Malaysia. Each participant provided epidemiological data based on an investigator-administered questionnaire adapted from the validated International Study of Allergies and Asthma in Childhood (ISAAC) protocol, and atopy status was determined using a skin prick test (SPT) performed by qualified staff.

RESULTS

Sensitization (determined by SPT) to either *Blomia tropicalis* or *Dermatophagoides pteronyssinus* was prevalent in 67% of the cohort. Using rhinitis as an example, current rhinitis (manifesting 2 rhinitis symptoms, within the past 12 months) was observed in half the cohort, while AR, which included atopy status, was estimated at a third of the cohort among Chinese and Malays, and one fifth among Indians. Sneezing and rhinorrhea were the most common symptoms among AR cases. Parental history of allergic diseases were significant risk factors for AR (and was significantly stronger amongst Indians). Upon adjustment for age, gender, and parental history; income level remained as significant risk factors for AR, while different lifestyle and dietary patterns influenced the risk of AR amongst the different race groups.

CONCLUSION

While the previously established non-modifiable risk factors for AR were present in our study population, the identification of modifiable risk factors, such as TV/computer usage, and dietary habits, opens a new area for research, both in the areas of gene-environment interaction, and management of AR.

MICROBIAL SIGNATURES IN ALLERGIC DISEASES IN EARLY LIFE: ENVIRONMENTAL INFLUENCES AND ROAD TO PREVENTION

Prof Dr Ruby Pawankar
Department of Paediatrics
Nippon Medical School
Tokyo
Japan

ALLERGY AS THE SENTINEL MEASURE OF PLANETARY HEALTH IN THE ANTHROPOCENE EPOCH

Dr Amir Hamzah Bin Dato Abdul Latiff
Pantai Hospital Kuala Lumpur
Kuala Lumpur, Malaysia

Allergic diseases have been considered an epidemic of the 21st century in the past 2 decades. This is reflected by the exponential rise in the prevalence of not only allergic diseases, but autoimmune diseases as well. This is on the background of the Anthropocene epoch that denotes the current interval of time on Earth in which humans have had a substantial dominant effect on their environment. Examples of these effects include air pollution (both external and internal) and climate change which are drivers for the increasing burden of allergic diseases.

The manner in which the environment is compromised would only have negative outcomes towards our health. Our health would thus depend on the the health and well-being of our surroundings, both its living and non-living systems. Hence, the concept of planetary health which is “the health of human civilization and the state of the natural systems on which it depends”. Negative impacts on our environment would correlate with the rise of allergic diseases and thus, allergic diseases have an important role as a sentinel measure of planetary health.

NASAL ALLERGEN PROVOCATION TEST

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Department of Otorhinolaryngology
Universiti Kebangsaan Malaysia
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The nasal allergen provocation test (NAPT) is a tool to diagnose allergic rhinitis at the site of the pathology itself. The nasal mucosa is exposed to the suspected allergen and the subsequent nasal reaction is recorded. NAPT may be performed by a trained healthcare worker in a clinic setting. It is useful to diagnose local allergic rhinitis and to ascertain the most likely allergen which drives the nasal symptoms. NAPT is performed using diluted commercially available allergen and is a safe procedure in well selected patients. There were 121 patients with symptoms of chronic rhinitis who underwent NAPT using house dust mites allergens (*Dermatophagoides pteronyssinus*/*Dermatophagoides farina* mix). The most common side effects are throat or eye itchiness but there were no patients who developed anaphylaxis. The NAPT for HDM correlated well with skin prick test and nasal specific IgE. In conclusion, NAPT is a safe test which may be used in clinical setting when there is doubt in the diagnosis of allergic rhinitis, especially when considering immunotherapy.

NASAL NITRIC OXIDE IN ALLERGIC RHINITIS WITH OR WITHOUT ASTHMA

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Universiti Kebangsaan Malaysia Medical Centre
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Nitric oxide found in both the upper and lower airways. Nasal nitric oxide was thought to play an important role in maintaining sterility of the paranasal sinuses besides contributes to the activation of ciliary movement and secretion of mucus. The concentration of nasal nitric oxide is said to be increased in nasal inflammatory condition such as allergic rhinitis.

Although many studies have shown such of values of nasal nitric oxide level in allergic rhinitis, the cut off points values are varying in the previous literatures. The values are depending on the types of machines used and techniques of nasal nitric oxide measurements. Our latest study showed the cut off value of 390 ppb (sensitivity of 73% and specificity of 80%) in patients with allergic rhinitis. We also found that the nasal nitric oxide value in allergic rhinitis will reduced significantly post treatment which almost similar to the nitric oxide level of normal healthy individuals.

This indicates that nasal nitric oxide is highly sensitive and specific to detect and can be a diagnostic tool to diagnose allergic rhinitis.

ALLERGIC RHINITIS WITH ECZEMA: ROLE OF IMMUNOTHERAPY IN SELECTED CASES?

Prof Dr Salina Husain
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Sublingual immunotherapy (SLIT) is a new form of allergen immunotherapy recommended by Allergic Rhinitis and its Impact on Asthma (ARIA) guidelines for adults with moderate to severe AR, sensitized to house dust mites. SLIT not only has long term beneficial clinical effects, but also sustained systemic effects on immune system. SLIT induces rapid and prolonged increase in serum IgG4 and does not significantly alter serum IgE levels. Allergen specific IgG4 competitively inhibits IgE from binding to allergens and subsequently reduces inflammatory responses. IgG4, known as a blocking IgG antibody, binds to Fc receptors which are predominantly found on macrophages, monocytes, granulocytes, mast cells and B cells, thus causing immunomodulation. The efficacy of immunotherapy in treating AR with eczema will be discussed.

AN EFFECTIVE APPROACH TO MANAGING CHRONIC URTICARIA IN CHILDREN AND ADULTS

Assoc Prof Dr Henry Foong Boon Bee
Associate Professor of Dermatology
Quest International University
Ipoh, Malaysia

(Facilitated by A.Menarini Singapore Pte Ltd)

The objective of this lecture is to understand the pathophysiology of chronic urticaria and provide guidelines on the management of chronic urticaria in children and adults. Urticaria is characterized by sudden appearance of hives, angioedema or both. Angioedema is the sudden deeper swelling of the submucosa or subcutaneous fat in which swelling is the major manifestation. Resolution is slower and can take up to 72 hours. Up to 20% of the population experience urticaria at some point in their lives.

Chronic urticaria is defined as daily or almost daily urticaria for at least 6 weeks. It affects more than 1% of the general population. Urticaria is a mast cell-driven disease producing histamine, platelet-activating factor (PAF) and various cytokines resulting in inflammatory response, sensory nerve activation, vasodilatation and plasma extravasation. The vast majority of chronic spontaneous urticaria (CSU) has either Type I Autoimmunity or Type IIb Autoimmunity. In type I autoimmunity there is presence of IgE auto antibodies against autoallergens while in type IIb autoimmunity there is IgG autoantibodies targeting activating mast cell receptors IgG-anti-FcεRI and IgG-anti-IgE. The recent finding of increased Th17 and IL-17 expression in both CD4+ T cells and mast cells in the skin of severe CSU patients is supportive for the major role that T cells perform in the pathogenesis of CSU. Increased serum IL-17 was found to be in association with CSU disease severity.

The goal of treatment is to treat the disease until it is gone. The identification and elimination of underlying causes, the avoidance of eliciting factors, tolerance induction, and the use of pharmacological treatment to prevent mast cell mediator release and the effects of mast cell mediators. Treatment should follow the basic principles of treating as much as needed and as little as possible. 2nd generation H1 antihistamines are preferred 1st line therapy for patients with chronic urticaria. They are better tolerated with fewer CNS/CVS and anticholinergic side effects. Increasing antihistamine doses improve the quality of life but do not increase somnolence. Increasing the dosage of levocetirizine and desloratadine up to 4-fold improves chronic urticaria symptoms without compromising safety in approximately three quarters of patients with difficult-to-treat chronic urticaria.

Omalizumab, a recombinant humanized monoclonal antibody reduces the levels of free IgE and the high-affinity receptor for the Fc region of IgE (FcεRI), both of which are essential in mast-cell and basophil activation. Studies have shown that omalizumab may suppress allergen-mediated skin reactions through its reduction of FcεRI function in basophils and mast cells.

PATHOGENESIS AND CLINICAL SIGNS AND SYMPTOMS

Dr Malisa Ami
Sunway Eye Centre
Sunway Specialist Centre
Selangor, Malaysia

Allergic eye disease or ocular allergy is a group of hypersensitivity disorders characterized by conjunctivitis and occasionally keratitis in response to environmental allergens. Its recurrent and chronic nature may affect patients' quality of life and it can be associated with nasal and dermal symptoms. Severe cases may lead to permanent visual disability, particularly in children. Early recognition is important to ensure prompt treatment and adequate control. This session will highlight the pathogenesis of ocular allergy disorders and its clinical presentation.

TREATMENT OPTIONS AND COMPLICATIONS

Dr Hazlita Dato' Mohd Isa
Gleneagles Hospital Kuala Lumpur
Kuala Lumpur, Malaysia

Treatment for allergic eye disease include identification and avoidance of the allergen as well as topical medication such as anti-histamines and immunosuppressive eyedrops. In rare advance cases, injections and minor operations may need to be advocated. Complications associated with allergic eye disease can be divided into disease related or treatment related where both can affect vision if not identified and managed promptly.

CASE PRESENTATION AND DISCUSSION

Dr Aida Zairani Mohd Zahidin
Sunway Eye Centre
Sunway Specialist Centre
Selangor, Malaysia

Ocular allergy runs a recurrent and chronic course with many devastating complications. Ocular complications may stem from the disease itself such as cornea shield ulcer, or from treatment which includes steroid induced glaucoma and cataract, and inadvertent eye rubbing which can induce keratoconus. This session will illustrate several cases and discuss on their management and outcome.

EVERYTHING YOU NEED TO KNOW ABOUT MALAYSIA 1ST AIT CONSENSUS

Prof Dr Baharudin Bin Abdullah
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Universiti Sains Malaysia
Department of ORL-HNS
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USM Health Campus
Kelantan, Malaysia

(Facilitated by Abbott Laboratories)

Allergic rhinitis (AR) is an IgE-mediated inflammatory disease of the upper airway. AR affects the patients' quality of life, is a known risk factor for asthma and a socio-economic burden.

Allergen-specific immunotherapy (AIT), comprising sublingual immunotherapy (SLIT) and subcutaneous immunotherapy (SCIT), involves administering increasing doses of the causative allergen to induce clinical and immunologic tolerance to the allergens. It is the only currently available treatment for AR that has been proven to induce disease-modifying effects (i.e., long-term remission of allergic symptoms or potential prevention of asthma and new sensitizations). Although AIT is conventionally recommended for patients who are non-responsive to symptom-relieving pharmacotherapy, it is presently recommended as a first-line treatment for patients with moderate to severe AR who prefer a treatment with the potential for long-term remission.

In light of the relatively recent implementation of AIT in Malaysia, guidelines on its appropriate indication and application are important to attain optimal outcomes. This consensus statement was developed by an expert group formed by the Malaysian Society of Allergy and Immunology to provide evidence-based recommendations for the practice of AIT in Malaysia. Patient and product selection, choice of AIT, and strategy towards an effective treatment outcome in AIT are presented.

DIAGNOSING ALLERGIES THROUGH BLOOD TESTS, PRICK TESTS AND PATCH TESTS. WHAT IS THE DIFFERENCE?

Dr Shahjahan Kassim
Klinik Dr Shah Allergy & General Practice
Kelana Jaya
Selangor, Malaysia

Allergies affect millions of people and can cause a variety of symptoms. Diagnosing allergies is crucial to manage symptoms and prevent severe reactions. Blood tests, skin prick tests, and patch tests are common methods for allergy testing. Allergies occur when the immune system responds to a specific substance (allergen) by producing IgE antibodies that bind to mast cells, which release histamine and other chemicals that cause allergy symptoms. Blood tests measure the level of IgE antibodies in the blood, skin prick tests involve pricking the skin with a tiny amount of allergen extract, and patch tests involve applying small amounts of potential allergens to the skin. Each test has its own advantages and disadvantages, which depend on several factors such as the type of allergy suspected and the patient's medical history. A healthcare provider can determine which test is appropriate for each patient.

TYPE 2 INFLAMMATION AS SEEN IN CLINICAL SETTING
IMPACT ON ATOPIC DERMATITIS & IMPACT ON ASTHMA

Dr Bong Jan Ling[1], Dr Wong Chee Kuan[2]
[1]Sunway Medical Centre, Sunway City, Selangor, Malaysia
[2]UM Specialist Centre, UMSC Building, Lorong Universiti, Kuala Lumpur, Malaysia

(Facilitated by Sanofi)

Type 2 immune response is one of the three major cell-mediated immune response pathways that normally protects the human self against external threats. However, when the immune response becomes dysregulated, it can lead to systematic type 2 inflammation, affecting multiple organ systems including the skin and the airway. While multiple cytokines contribute to type 2 inflammation, increased IL-4 and IL-13 signaling is key and the central driver of type 2 inflammation, contributing to clinical features of AD and Asthma. Targeting type 2 inflammation across relevant diseases may help to improve long-term outcomes for patients in clinical settings and to optimize clinical management for clinicians.

SUBCUTANEOUS IMMUNOGLOBULIN FOR PID IN NEED: THE WAY FORWARD

Assoc Prof Dr Adli Bin Ali
Department of Paediatrics
Universiti Kebangsaan Malaysia Medical Centre
Kuala Lumpur, Malaysia

Immunoglobulin replacement therapy (IRT) is one of the mainstay treatments for patients with primary immunodeficiency (PID), most require it life long. Traditionally delivered through intravenously, subcutaneous route provide an attractive alternative allowing PID patient flexibility, autonomy and freedom in receiving their treatment. First introduced in Malaysia and South East Asia region in 2015, this session will review the progress and the way forward in enabling this IRT modalities will be accessible to larger PID patients.

NON-INFECTIOUS MANIFESTATIONS OF PID

Dr Sangeetha Siniah
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Hospital Tunku Azizah Women and Children Hospital
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Primary immunodeficiency (PID) disorders are a group of genetic disorders that result in impaired immune system function. While these disorders are most commonly associated with increased susceptibility to infectious diseases, they can also result in a wide range of non-infectious manifestations.

This presentation will provide an overview of the non-infectious manifestations of primary immunodeficiency disorders. Will begin briefly by discussing the underlying genetic and immunological mechanisms that lead to these disorders. Next, to explore the diverse range of non-infectious manifestations that can result from PID, including autoimmune or autoinflammatory disorders, lymphoproliferative disorders, malignancies, and allergic and inflammatory conditions.

Presentation will also highlight some specific examples of non-infectious manifestations of primary immunodeficiency disorders, such as X-linked agammaglobulinemia, which is associated with an increased risk of gastrointestinal and neurological disease. Autoimmune conditions in PID such as vasculitis in Wiskott Aldrich Syndrome.

Finally, will discuss the challenges of diagnosing and managing non-infectious manifestations of primary immunodeficiency disorders, including the importance of early detection and treatment to prevent long-term complications.

In conclusion, this presentation will provide a comprehensive overview of the non-infectious manifestations of primary immunodeficiency disorders, emphasizing the need for clinicians and researchers to consider these conditions in their differential diagnoses and to develop new strategies for their diagnosis and management.

BONE MARROW TRANSPLANT FOR PID: WHO NEEDS IT?

Dr Intan Juliana Ab Hamid
Universiti Sains Malaysia
Penang, Malaysia

Allogeneic hematopoietic stem cell transplantation has been used as a treatment for Severe Combined Immunodeficiency Disease since 1968. The survival outcome has been improved tremendously with the advance in stem cell manipulation techniques, improved care support and early diagnosis of the patients. The aim of this session is for introduction of allogeneic HSCT and their indication for PID disease. By the end of the sessions, participants will be able to recognise and understand about the various options available for HSCT in PID disease.

HSCT FOR PID IN MALAYSIA: SUCCESSES AND CHALLENGES

Prof Dr Hany Mohd Ariffin
Universiti Malaya
Kuala Lumpur, Malaysia

Hematopoietic stem cell transplantation (HSCT) is the main curative option for many types of primary immunodeficiency disorders (PID). Greater access to genetic analysis services has led to accurate diagnoses for a variety of PID, allowing affected children to be identified for HSCT. In Malaysia, the advent of HSCT using HLA-haploidentical (especially, parental) donors has translated to greater access to HSCT and ultimately, cure for children with various PIDs. Challenges currently faced in managing children with PID prior to entering HSCT, such as poor nutritional state and chronic infections with residual organ damage, may be addressed by earlier recognition of the underlying immunodeficiency. From the viewpoint of HSCT for PID in Malaysia *per se*, areas for improvement include better conditioning regimens and new methods of T-lymphocyte depletion, as well as addressing hyperinflammation, graft-versus-host disease and supportive care until immune reconstitution is established.

AUTOIMMUNITY IN PID

Assoc Prof Dr Intan Hakimah Ismail
Clinical Immunology Unit
Department of Paediatrics
Faculty of Medicine and Health Sciences
Universiti Putra Malaysia
Selangor, Malaysia

Primary immunodeficiency diseases (PIDs) are a heterogeneous group of inherited immune disorders that affect different components of the immune system. PID patients are more prone to infections and non-infectious complications. Interestingly, the noninfectious complications are increasingly recognised with features of 'immune dysregulation' including autoimmunity, inflammation, lymphoproliferation, allergy and malignancy. In several cases, autoimmunity has become the first manifestation of PIDs.

Autoimmunity and immunodeficiency were previously considered as two separate disease entities. It is now becoming evident that they have many characteristics in common and may, at least in some cases, be interconnected. This leads to difficulty in the management of autoimmune complications in PID patients.

Most pediatricians or specialists taking care of patients with autoimmune disorders may not consider to evaluate immune function in the initial workup and assume low probability. Therefore, it is not uncommon that the specific diagnosis of highly vulnerable patients with genetic immune deficiency disease is delayed.

Autoimmune and inflammatory manifestations can occur prior or after diagnosis of PID. As such, management of autoimmunity in patients with PID requires special considerations because dysregulations and dysfunctions of the immune system along with persistent inflammation impair the process of diagnosis and treatment.

Patients with early-onset autoimmunity, an association between two or more autoimmune manifestations, or increased susceptibility to infections should be promptly screened for PIDs. A multidisciplinary approach is needed to expedite prompt diagnosis. Reevaluation of the patient's immune system and genetic testing in this multidisciplinary setting are of high importance, in order to optimise the diagnostic and treatment approach for these vulnerable patients.

PID ASSOCIATED WITH VERY EARLY ONSET OF IBD

Dr Ong Sik Yong
Gleneagles Hospital Kuala Lumpur
Kuala Lumpur, Malaysia

Very early onset inflammatory bowel disease (VEO-IBD) is defined as IBD presenting before 6 years of age. When compared with IBD diagnosed in older children, VEO-IBD has more severe clinical features and more challenging to manage. The role of monogenic defects has been increasingly recognized in children with VEO-IBD. Various genes responsible for primary immunodeficiency diseases (PID) are involved in the molecular pathogenesis of VEOIBD.

Challenges remains in getting a genetic diagnosis in VEO-IBD in order to dictate the definite treatment especially in countries with limited resources.

INTRANASAL CORTICOSTEROIDS: TOPICAL POTENCY, SYSTEMIC ACTIVITY AND THERAPEUTIC INDEX

Dr Desiree Larenas-Linnemann
Consultant Allergist Clinical Immunologist & Paediatrician
Director of the Centre of Excellence in Asthma and Allergy
Hospital Medica Sur Mexico City
Mexico

(Facilitated by GlaxoSmithKline Pharmaceutical Sdn Bhd)

Allergic rhinitis is a common disorder that is strongly linked to asthma and conjunctivitis. It is usually a longstanding condition that often goes undetected in the primary care setting. The classic symptoms of the disorder are nasal congestion, nasal itch, rhinorrhea and sneezing. A thorough history, physical examination and allergen skin testing are important for establishing the diagnosis of allergic rhinitis.

Second generation oral antihistamines and intranasal corticosteroids are the mainstay of treatment.

With the discovery of 1 intranasal corticosteroid, the treatment of allergic rhinitis has been revolutionized with newer intranasal corticosteroid are being introduced in clinical practise.

This talk would provide a brief overview of the subtle differences between various type of intranasal corticosteroid ranges from topical potency, physiochemical and pharmacokinetics properties. The understanding of the subtle properties of intranasal corticosteroid would help to make better clinical decision and avoid the assumption that all intranasal corticosteroid are the same.

FREE PAPERS
E- Poster Presentation
Date and Time of Presentation: 17th March 2023 at 3.30pm to 4.00pm

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PP01

SENSITISATION TO PEANUT COMPONENT rAra h2: CASE SERIES OF SEVERE PEANUT ALLERGY IN MALAYSIA

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INTRODUCTION

Peanut is a very common food in Malaysia and a source of protein. However, it is also potentially one of the most allergenic food and accounts for the majority of severe food-related allergic reactions. The majority of reactions to peanuts are mild, but it is also the most common cause of fatal anaphylactic reactions to food. Peanut allergy is a fairly common disease affecting children with increasing prevalence worldwide. We describe a case series of 10 patients with severe peanut allergy reported by our laboratory in 2022.

METHODS

A retrospective analysis of patient samples that were sent for the determination of specific allergen and its components were analysed from diagnostic record data year 2022. Serum specific IgE to peanut and its component (rAra h1, rAra h2, rAra h8, rAra h9) were determined using fluoroenzyme immunoabsorbent assay with Phadia UniCAP 250. Patient demographics such as age, sex, race and underlying disease were included.

RESULTS

About 97 patients (3.4%) of the screened diagnostic records (n=2858) were found to have positive specific IgE towards peanuts. Of that, ten patients were found to have significantly high level of specific IgE towards peanut. Patients ranged from 6 months old infant to 12 years old child, with equal distribution among male and female. A vast majority of them were Malays (n=9); with one Chinese patient. All these patients were presented with either urticaria, eczema, angioedema or systemic allergic reaction. Three patients were reported to have very high levels of specific IgE towards peanut component rAra h2 (>50 kUA/l) and were presented with angioedema and urticaria symptoms.

CONCLUSION

Component-resolved diagnostics offers diagnostic approach to detect specific antibody response against individual allergenic molecules in evaluating severe systemic reaction. Sensitisation to rAra h2 was associated with severe reactions in distinguishing severe allergy from mild symptoms.

PP02

IMPROVING OUTCOMES FOR ATOPIC DERMATITIS IN CHILDREN: A MULTIMODAL ATOPIC DERMATITIS EDUCATION BUNDLE (MADE)

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INTRODUCTION

Parental education is the cornerstone of managing children with atopic dermatitis (AD). It can be delivered through structured teaching, sharing educational videos & material, or formulating action plans with caregivers. The role of integrating multimodal education interventions into a bundle using the Malay language has not been well-researched. Our study aimed to determine the effectiveness of a multimodal education bundle in the Malay language in reducing the severity of AD and improving patient quality of life (QOL), parental AD knowledge, and treatment compliance.

METHODS

We conducted a cross-sectional study at Hospital Tuanku Ampuan Najihah, which included 47 patients aged 1 month to 12 years old diagnosed with AD from January to December 2022. We compared the AD severity (IGA=Investigator Global Assessment scale, POEM=Patient-Oriented Eczema Measure score), patient QOL (IDQOL=Infants' Dermatitis Quality of Life Index, CDLQI=Children's Dermatology Life Quality Index), parental knowledge, and treatment compliance 3 months after diagnosis between patients in the MADE intervention group and control group (routine clinical visits).

RESULTS

After 3 months of diagnosis, patients in the MADE group showed a reduction in the surface area of dermatitis (Md=2% versus 10.5%), a lower IGA scale (Md=1 versus 2), and a lower POEM score (M=3 versus 11) when compared to the control group. Furthermore, the patient's quality of life (IDQOL/CDLQI) was better in the MADE group (Md=1 versus 5), and parental AD knowledge was also higher in the MADE group (Md=100% versus 75%). Additionally, patients in the MADE group showed a higher compliance rate with emollients and topical steroids (Md=100% compared to 0%).

CONCLUSION

Our study found that using a multimodal education bundle in the Malay language reduced AD severity, improved patient QOL, increased parental AD knowledge, and increased treatment compliance compared to the control group.

PP03

THE SENSITIVITY AND SPECIFICITY OF SKIN PRICK TEST COMPARED WITH NASAL ALLERGEN PROVOCATION TEST

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INTRODUCTION

Allergic rhinitis (AR) is an IgE-mediated disease and is commonly associated with house-dust mites (HDM). Skin prick test (SPT) is widely used to confirm HDM AR. A wheal diameter of 3mm or more is interpreted as positive SPT. However, this may not reflect true nasal reactivity to HDM. The study aim to assess sensitivity and specificity of SPT compared to NAPT towards HDM among patients with rhinitis.

METHODS

One hundred and ten (N=110) patients with symptoms of allergic rhinitis were recruited. We performed an analysis of NAPT, which evaluated for *Dermatophagoides pteronyssinus* (Dp) and *Dermatophagoides farinae* (Df) allergies, and compared them with SPT results. The NAPT was assessed by changes in symptoms, peak nasal inspiratory flow meter (PNIF), and anterior active rhinomanometry (AAR). Patients were categorised as either NAPT-positive or NAPT-negative. A student t-test was used to determine the association between SPT wheal size (mean in mm±SD) and NAPT results. Receiver operating characteristic (ROC) curves were used to assess the area under curve (AUC) and define cutoff SPT wheal size to predict positive NAPT. The sensitivity and specificity for each SPT wheal diameter as a cutoff was calculated.

RESULTS

76% (N=84) of patients with clinical symptoms had positive NAPT results. The NAPT-positive group reported higher severity of clinical symptoms ($p<0.05$), tended to have asthma ($p<0.05$) & eczema ($p<0.01$), and recorded higher wheal diameter of 8.6mm ($p<0.01$). The results of the ROC curves showed a significant correlation between SPT wheal size and positive NAPT (AUC of 0.94). An SPT wheal diameter of > 4mm showed a sensitivity of 85.7 and specificity of 88.5.

CONCLUSION

SPT is an excellent test to predict AR. A wheal size of ≥5mm can predict positive NAPT with high sensitivity and specificity. If SPT wheal size is 3-4mm and does not correlate with clinical symptoms, NAPT is recommended to confirm nasal reactivity to HDM.

PP04

A RATIONAL DESIGN OF A HYPOALLERGENIC ARGININE KINASE VACCINE

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INTRODUCTION

About 10% of Malaysia's population has shellfish allergies. These individuals could have a severe reaction, such as anaphylaxis if exposed to these allergens. Currently, no effective immunotherapy is available for treating this lifelong and life-threatening allergy. This project aims to develop a hypoallergen vaccine candidate of mud crab *(Scylla paramamosain)* arginine kinase (Scy p 2) with the potential as an immunotherapy for shellfish allergy.

METHODS

Gene encoding for wild-type (wt) and mutant (mt) Scy p 2 protein was synthesised in pET 28 expression vector. Then, both proteins were expressed and purified. Mt Scy p 2 protein will be subjected to four different chemical modifications to produce different hypoallergenic variants of Scy p 2. *In vitro* assays will be conducted to determine which hypoallergenic variants would demonstrate the largest reduction in allergenicity (IgE binding, inhibition and cross-linking assays) while retaining their immunogenicity. Finally, the selected hypoallergenic variants will be tested *in vivo* using crab-allergic mice models to assess their potential as immunotherapy for seafood-allergic patients.

PRELIMINARY RESULTS

Wild-type Scy p 2 was purified using Tris buffer with 500 mM imidazole (20 mM Tris, 1 M NaCl, 0.5 M imidazole, pH 7.4). On the other hand, mt Scy p 2 was purified using Tris buffer with 6 M urea (20 mM Tris, 0.5 M NaCl, 0.5 M imidazole, 6 M urea, pH 7.4).

CONCLUSION

Allergen-specific immunotherapy (AIT) is currently the most promising curative method for treating food allergies. With the development of this Scy p 2 hypoallergen as shellfish allergy immunotherapy, it can significantly impact the health of shellfish allergic patients, which in turn promotes the societal well-being of Malaysians.

PP05

ASSESSING THE PREVALENCE OF SEAFOOD ALLERGY SENSITISATION AMONG MALAYSIANS

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INTRODUCTION

Seafood allergy is a global disease that affects 10% of the world's population. Globally, fish and shellfish allergies affect up to 7% and 10% of individuals, resulting in reduced quality of life. IgE-mediated seafood allergic reactions can result in gastrointestinal, dermatological, or respiratory symptoms and, in some cases, fatal anaphylaxis reactions with a death rate ranging between 0.65% to 2%. So far, a diverse range of commonly consumed seafood species has not been studied, and tested for only a limited number of seafood species have been tested for their allergenicity. There is insufficient data on the allergenic seafood species Malaysians commonly consume. This study aimed to identify and assess the IgE-reactivity of commonly consumed fish, crustaceans, and molluscs species among Malaysians.

METHODS

Commonly consumed fish, molluscs, and crustaceans were identified and selected based on the volume of sales reported by the Fisheries Department of Malaysia and existing published reports of allergic reactions towards seafood species. Protein extracts were prepared from the selected seafood species. The prevalence of seafood allergy sensitisation will be assessed using immuno-dot blots using sera from healthy and atopic individuals collected from a cross-sectional Malaysian cohort. Further, the cross-reactivity of selected extracts will be determined using inhibition ELISA.

PRELIMINARY RESULTS

Fourty-five seafood species were identified as commonly consumed seafood species among Malaysians. Protein extracts were prepared in phosphate buffered saline from fresh samples, and the concentrations standardised for immuno-dot blots. These extracts will be tested for their IgE-reactivity and cross-reactivity using selected sera from seafood-allergic individuals.

CONCLUSION

Data from this study will enhance the understanding of seafood allergy and the prevalence of seafood allergy among Malaysians. It will further help in improving the diagnostic panel for seafood allergies.

PP06

SILENT RHINOSINUSITIS IN PRIMARY IMMUNODEFICIENCY

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INTRODUCTION

Primary immunodeficiencies (PIDs) are one of the secondary etiology of rhinosinusitis and may be the contributes to the difficult-to-treat rhinosinusitis. The diagnosis of rhinosinusitis includes positive clinical symptoms supported with sign of rhinosinusitis in endoscopic examination or imaging. However, patients with PID may have no clinical symptoms of rhinosinusitis. The aim of this study is to describe the clinical characteristic of PID patients with silent rhinosinusitis.

METHODS

A group of 36 PID patients were screened for ear, nose & throat (ENT) clinical manifestation. Six of them were identified to have silent rhinosinusitis. Clinical characteristics of patients' age, gender, PID diagnosis and class and other ENT manifestations were tabulated.

RESULTS

Five of them were male with the mean age of 11±5 years (age ranged 4-17 years). X-linked agammaglobulinemia and predominant antibody deficiency was the most common PID diagnosis and class. The mean age for PID diagnosis was 4.2±3.8 years. Three of them had otitis media as ENT presenting symptoms. None of them had rhinosinusitis symptoms but had clinical manifestation of rhinosinusitis of nasoendoscopic examination (5 had mucopus at osteomeatal complex, 1 had congested nasal cavity).

CONCLUSION

Awareness among physicians and otorhinolaryngology on silent rhinosinusitis is important as patient can be treated early thus hopefully can improve quality of life and avoid serious complication of rhinosinusitis and PID.

PP07

INVESTIGATING THE CLINICAL IMPLICATION OF DUAL EXPOSURE OF ARGININE KINASE AMONG ALLERGIC INDIVIDUALS

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INTRODUCTION

An estimated 20% of the population is affected by allergies which can manifest as respiratory, gastrointestinal or skin symptoms. Allergies can either be caused by recurring sensitisation of a particular allergen or cross-sensitisation of homologous allergens. Arginine kinase is an important homologous allergen that is relevant in both respiratory and food allergens sources. However, there are currently not many studies on arginine kinase and its role in cross-sensitisation. This study aims to determine the cross-reactivity of arginine kinase from different invertebrate sources, such as dust mites, cockroaches, shrimp, and crabs, by correlating the clinical symptoms to the IgE reactivity data.

METHODS

Recombinant proteins of four arginine kinase homologues from dust mite (Der p 20), cockroach (Per a 9), shrimp (Pen m 2) and mud crab (Scy p 2) will be expressed and purified. The IgE binding profile of these proteins will be characterised by immunoblots using shellfish-allergic or respiratory-allergic patients sera. Next, the extent of IgE reactivity of the two patient groups between the homologous allergens will be determined using IgE inhibition ELISA assays.

EXPECTED RESULTS

Based on the literature, we expect that the majority of food-allergic individuals would demonstrate primary sensitisation to food allergens (shrimp or crab) and cross-reactivity to respiratory allergens (dust mites or cockroaches). The reverse is expected to be true for respiratory allergic patients. One exception will be the dual-sensitised allergens, where both respiratory and food allergens are co-sensitising allergens.

CONCLUSION

The characterisation of the IgE reactivity patterns to arginine kinase among food- and respiratory-allergic individuals allows a better understanding of the primary sensitiser in these patient groups.

PP08

FATAL ANAPHYLAXIS TO HYMENOPTERA VENOM: 2 CASE REPORTS DUE TO HORNET AND BEE STING

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INTRODUCTION

Hymenoptera stings or venom can cause local, systemic reaction and occasionally fatal anaphylaxis. This is due to stings by honeybees (Apis) and certain wasps (Vespula vulgaris and Vespula germanica). Hymenoptera insect includes Apidae and Vespidae subgroup. Apidae consist of honey bees and Bumblebees species, and the Vespidae subclass includes Vespula species (yellow jacket, wasp and hornets). We report 2 cases of fatal reactions in adult with acute anaphylaxis to hornet (tebuan) and multiple bee (lebah) stings respectively.

CASE 1

An 18 year old man with history of asthma, collapsed after being stung by a hornet over his left earlobe. He succumbed to death in emergency department despite resuscitation. Blood test showed very high serum tryptase 70μg/l (normal range $<$10μg/l), high specific Immunoglobulin E (IgE) to honey bee venom: 24.9kUA/l (normal range $<$0.1kUA/l) and high total IgE 4723 ku/L (normal range $<$100ku/L). Autopsy report showed angioedema of the periorbital, lips and tongue. Lungs were hyperinflated with mucus plugs.

CASE 2

50 year old man was stung by a group of bees. He collapsed and was pronounced dead at scene. Blood test showed raised serum tryptase 36.1μg/l, specific IgE was low to honey bee venom 0.86kUA/l and normal total IgE 34.1 ku/L. Autopsy report showed oedematous lungs and grossly normal airways.

CONCLUSION

Both cases had acute fatal anaphylaxis by hymenoptera venom. This is based on elevated tryptase level, positive specific IgE to honey bee venom and autopsy findings. High total IgE could be present in atopic person as seen in the first case who had asthma while non atopic in the second case. Risk factors for severe reaction include insect type, comorbidity, asthma and mast cell disease while risk of fatal reaction is seen in male, older age, previous history of hymenoptera allergy and delayed adrenaline administration.

PP09

GENDER EFFECT ON PERIPHERAL LYMPHOCYTE SUBSETS OF HEALTHY MALAY CHILDREN IN MALAYSIA

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INTRODUCTION

Gender may affect the lymphocyte subsets with psychological stressors having a higher impact on CD4 and CD8 counts in males than in women. The lymphocyte subset associated with gender has been studied extensively, however further research is still required because it was demonstrated that it may be different for each region or race. Therefore, the objective of this study is to investigate the association of the lymphocyte subsets and gender in Malay children.

METHODS

500 μl of blood was taken from 93 healthy Malay children and immunophenotyped by flowcytometry. The statistical analysis was performed using SPSS version 26. Means were compared using descriptive analysis, and the association between gender and the variables was determined using an independent t-test. This research was approved by the USM/JEPEM Research Ethics Committee and MREC.

RESULTS

The results indicated that CD3, males have a greater mean of 3341.73 than females (3203.53). Similarly, for CD8, CD19, and CD16/56 cells, male children had larger mean values (1286.64, 923.94, and 606.42 respectively) compared to female children. In contrast the ratio of CD4:CD8 and CD4+ T cells, female children had higher means than male children, with values of 1957.41 and 1.92, respectively. Overall, the statical analysis demonstrated that only CD16/56 showed a statistically significant difference (p-value = 0.028), with males having a higher mean than females. Whereas other lymphocyte subsets did not indicate any significant mean difference with gender as the p-value obtained has more than 0.05.

CONCLUSION

Our results indicate that only CD16/56 in Malays children shows an association between lymphocyte subsets and gender. The independent T-test shows insignificant results even though the mean shows that males outperform females in CD3, CD8, and CD19. Further research can be conducted by using a larger sample size.

PP10

INFRATEMPORAL FOSSA IgG4-RELATED DISEASE: AN UNUSUAL RARITY IN HEAD & NECK PERSPECTIVE

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INTRODUCTION

Infratemporal Fossa IgG4-related Disease (IgG4-RD) is a chronic systemic fibro-inflammatory disease that characterised by dense infiltration of immunoglobulin G4 (IgG4) positive plasma cells in affected tissues and elevated serum IgG4 levels. IgG4-RD may involve any organ but rarely involving infratemporal fossa.

METHODS

A 33-year-old lady presented with difficulty in mouth-opening for 7 months. She has trismus with 2 finger-breath. Other physical examination and routine blood tests were unremarkable. Magnetic Resonance Imaging confirmed a homogenous enhancing mass at right masticator and right parapharyngeal space. Patient was diagnosed with right infratemporal fossa tumour and underwent debulking of tumour via transparotid-transmandibular approach.

RESULTS

The histopathological report showed presence of chronic inflammatory cells with predominant B cells. The numbers of IgG4 positive plasma cells is >100cells/HPF with IgG4/IgG ratios from 10%-40%. The patient was diagnosed with IgG4-related disease of infratemporal fossa. She was started with oral prednisolone tapering dose with maintaince dose over 6 months. Surveillance follow up post-operatively has showed good control of the disease progression with resolution of trismus and no radiological recurrence.

CONCLUSION

Diagnosis of IgG4-RD remains a challenge and histopathological examination remains the mainstay of diagnosis. The first-line treatment to induce remission in all active IgG4-RD is glucocorticoid. Diagnosis of IgG4-RD should be considered as possible differential in every patients presenting with an infratemporal fossa mass.

PP11

DOES GIVING MOTHERS PROBIOTICS LOWER THE CHANCE THAT THEIR NEWBORNS WILL DEVELOP ATOPIC DERMATITIS?

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INTRODUCTION

Atopic dermatitis (AD) is a commonly occurring allergy that often presents during infancy and childhood. There is a known connection between gut microbiota and immune system development, and numerous studies have indicated that probiotics may reduce the risk of AD. Previous research has focused on the effects of probiotics on infants and young children with allergies. Hence, the current systematic review aims to fill a gap in the literature by examining how maternal probiotics supplementation may impact the development of AD in their offspring.

METHODS

Searches were conducted on three databases (EMBASE, MEDLINE and PubMed) from database inception to 31st December 2022 using “probiotic”, “allergic dermatitis”, “eczema”, “maternal”, “mother”, “perinatal” and “prenatal” as keywords. All titles and abstracts retrieved were screened based on the inclusion and exclusion criteria. Studies reporting the use of probiotics in mothers and measurements of allergic dermatitis in infants or children were included in the current analysis but not those conducted in non-human participants.

RESULTS

Out of 527 articles retrieved, only 42 that met our inclusion and exclusion criteria were selected for further evaluation. Among these, the majority of studies supported the notion that probiotics reduced the risk of AD in infants when prenatally administered to the mother. However, some articles refuted the therapeutic effects of the maternal probiotic as there is no significant difference in the severity of AD symptoms compared to the placebo group.

CONCLUSION

Our findings suggest that maternal probiotics may have the potential to serve as an alternative treatment for managing AD in high-risk infants, particularly when given before birth. However, there have been discrepancies in these results, and further comprehensive studies are needed to resolve these discrepancies and arrive at a conclusive understanding of the safety and efficacy of maternal probiotics in combating AD.

PP12

RISK STRATIFICATION FOR ATOPIC DERMATITIS IN CHILDREN: A NOMOGRAM FOR IDENTIFYING DIFFICULT-TO-TREAT ATOPIC DERMATITIS

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INTRODUCTION

Patients with difficult-to-treat atopic dermatitis (AD) are at risk for frequent hospitalisations and increased use of systemic immunosuppressants. Besides, they often have multiple sequelae, such as sleep disturbances, mental health issues, and poor quality of life. To date, plenty of interventions have promising results in treating difficult-to-treat AD. Beyond this, there has been little investigation into clinical predictors of difficult-to-treat AD. Our study aimed to identify the predictors for difficult-to-treat AD in children and create a nomogram for risk stratification.

METHODS

We conducted a retrospective case-control study at Hospital Tuanku Ampuan Najihah, which included 29 patients aged 1 month to 12 years old diagnosed with AD from January to December 2022. We compared variables between patients with difficult-to-treat AD and those without. Variables with moderate effect size (standardised mean difference >0.5) were analysed with logistic regression.

RESULTS

Of the 29 patients, 8 (27.6%) had difficult-to-treat AD. Children with difficult-to-treat AD were found to be younger (M=1.3 versus 3.8 years), non-asthmatic (12.5% versus 61.9%), and had a higher Investigator Global Assessment scale (IGA) on diagnosis (Md=3 versus 2) compared to the control group. Multivariate logistic regression revealed that younger age (OR=0.73, 95% CI: 0.41 - 0.98) and higher IGA on diagnosis (OR=7.35, 95% CI: 1.24 - 43.55) were independently associated with difficult-to-treat AD. We developed a nomogram from the logistic regression to predict the probability of difficult-to-treat AD (AUC=0.80, accuracy=0.83, sensitivity=0.63, specificity=0.86, PPV=71.4%, NPV=90.5%).

CONCLUSION

Our study determined that younger age and higher IGA on diagnosis were independently associated with difficult-to-treat AD in children. We created a nomogram to estimate the probability of difficult-to-treat AD, which may assist clinicians in selecting treatment intensiveness (strength of topical steroids) and referral to dermatology. Further research is necessary to externally validate this prediction model.

PP13

THE MODIFICATION, TRANSLATION AND VALIDATION OF THE MALAYSIAN VERSION OF SCORE FOR ALLERGIC RHINITIS (SFAR) QUESTIONNAIRE

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INTRODUCTION

Score for Allergic Rhinitis (SFAR) is a validated self-administered questionnaire to assess for allergic rhinitis (AR) in a population setting but was designed for a temperate climate. Objective: This study aims to modify the SFAR for the tropical climate, translate the modified SFAR from English to Malay Language and validate this Malaysian version of SFAR (MySFAR).

METHODS

This was a cross- sectional study at an outpatient Otorhinolaryngology clinic in a tertiary center. There were 2 phases in the study: 1) the translation and validation of SFAR, and 2) the testing of diagnostic accuracy. Two different groups of participants were recruited for the respective phase.

RESULTS

In phase 1, the total MySFAR score showed good discriminant validity between AR and healthy controls (13.44 ± 1.58 v 1.00 ± 2.12, $p<0.01$). The internal consistency and test re-test reliability of MySFAR was excellent with Cronbach alpha 0.92 (95% CI: 0.90- 0.94) and intraclass correlation coefficient of 0.97, $p<0.01$. In phase 2, MySFAR gave an AUC of 0.98 (95% CI= 0.96- 1.00, $p<0.01$), and a cut- off >9 ($J = 0.92$) was determined based on the highest Youden index. This cut- off was 97.8% sensitive and 93.9% specific to predict allergic rhinitis from non- allergic rhinitis.

CONCLUSION

The present study showed good validity and reliability of MySFAR among the Malaysian population. The cut- off value of >9 was able to predict allergic rhinitis. This would be a useful screening tool for allergic rhinitis population studies in tropical countries.

PP14

ACUTE ANAPHYLAXIS TO TAKOYAKI: IS THE CULPRIT SEAFOOD OR ORAL MITE?

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INTRODUCTION

Diet in many society has changed and increasingly varied food are prepared outside home which composed of many different ingredients. These may cause severe allergic reactions and could be considered to be hidden allergen. Takoyaki, which is a ball-shaped Japanese snack made from wheat flour based paste. It also contain egg, soya, dried bonito fish, dried seaweed, octopus and tempura. Storage mite or oral mite-contaminated wheat flour have been reported in several cases as the major cause of oral mite anaphylaxis.

CASE REPORT

A 51 year old female was admitted to emergency department with anyphylactic symptoms of urticaria, periorbital oedema and loss of conciousness half an hour after ingestion of takoyaki containing octopus, prawn, egg, and Japanese mayonaise sauce. She had previously consumed seafood and takoyaki without any reaction. She had no history of asthma, food allergy nor drug allergy.

RESULTS

Blood test showed normal tryptase level 3.02μg/L (normal range $<$10μg/L). Total Immunoglobulin E (IgE) was raised 330ku/L (normal range:$<$100 ku/L). Specific IgE (sIgE) was moderate to house dust mite Dermatophagoides farinae (DF), low to storage mite *Lepidoglyphus destructor* (LD) and very low to *Glyphagus domesticus* (GD) and shrimp. sIgE was undetected to seafood (squid, lobster, crab, clam), egg, wheat, anisakis, soybean, peanut, component rPen a1 Tropomysin (shellfish & mollusk) and rCypc1 Carp (fish protein). Skin prick test (SPT) showed positive to DF with wheal 5.5mm, prawn 4mm, GD 4mm and LD 4mm.

CONCLUSION

This patient most likely had food-induced anaphylaxis due to storage mite-contaminated Takoyaki flour, hidden allergens but unlikely due to seafood.

PP15

LOW SEROPREVALENCE OF COVID-19 AMONG HEALTHY MALAYSIAN RESIDENTS IN PENANG, MALAYSIA DURING THE 4TH PANDEMIC WAVE

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INTRODUCTION

Seroprevalence studies for COVID-19 in a general population which also includes those who are asymptomatic, is important to understand the extent of undetected transmission in a defined community.

METHOD

This study aims to determine the extent of infection in the general population and cumulative incidence, as determined by seropositivity to COVID-19. Antibodies to SARS-CoV-2 were detected using Healgen COVID-19 IgG/IgM Rapid Test Cassette.

RESULT

A total of 422 respondents from Kepala Batas, Penang, were recruited for this cross-sectional study. Three hundred and eighty healthy individuals from the were selected and analysed. The mean age of the respondents was 33 years (SD = 14.23), with more female respondents. Most respondents are Malay (95.8%). A total of 21 (5.5%) respondents were found to have positive COVID-19 antibodies. Among them, two were (0.5%) IgM positive, while nineteen (5.0%) were IgG positive.

CONCLUSION

The seroprevalence of antibodies against SARS-CoV-2 among possible cases was lower than expected.

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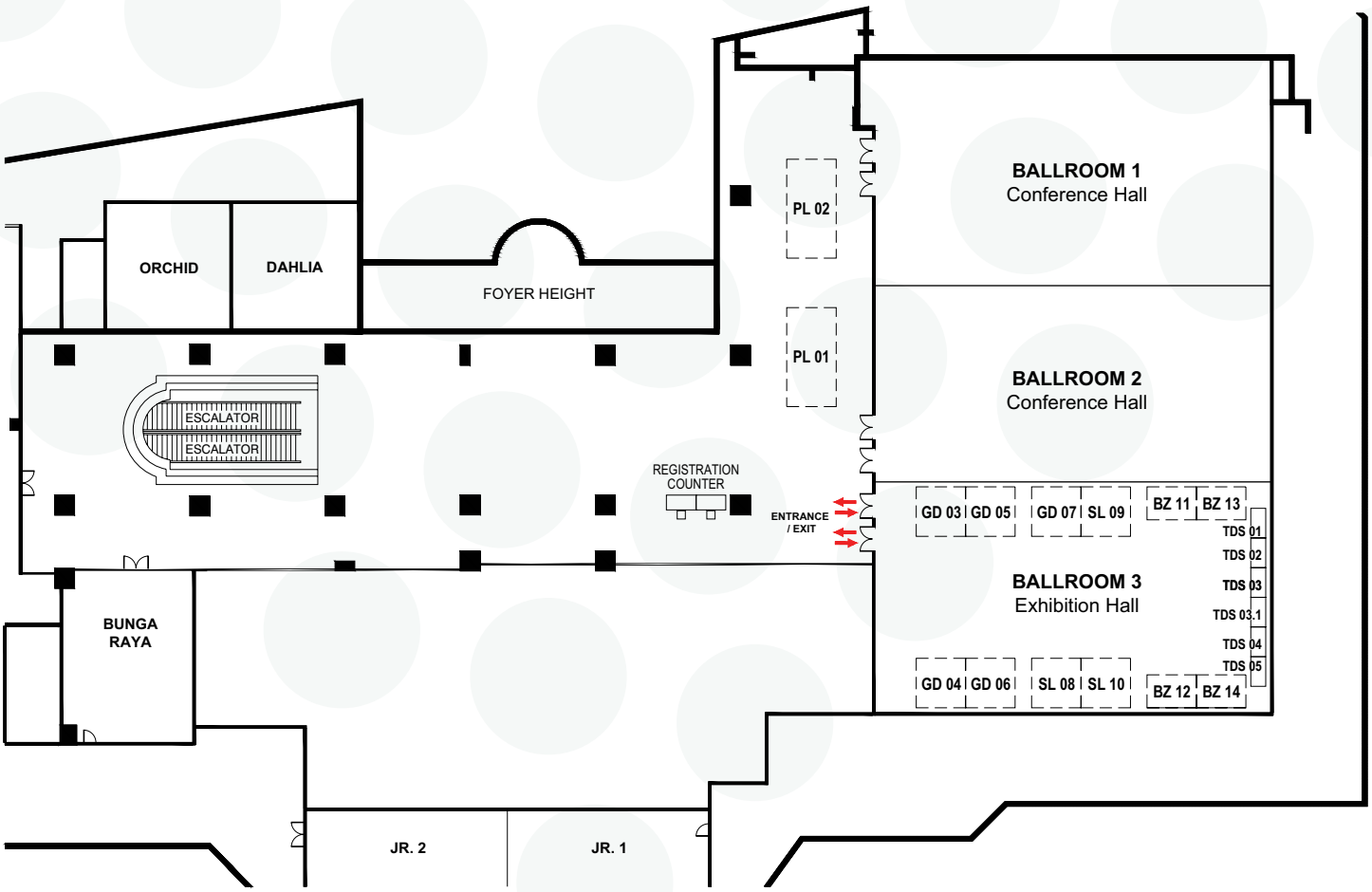

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