Abstracts

phenotypes may provide clues regarding the pathogenesis and prevention of subsequent asthma.

Reference

**P44**

**SPECIFIC IGE TO GALACTOSE-ALPHA-1,3-GALACTOSE (ALPHA-GAL) DOES NOT ADD TO THE DIAGNOSIS OF MAMMALIAN MEAT ALLERGY IN A TICK-ENDEMIC POPULATION**

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**Background:** The clinical manifestations of mammalian meat allergy (MMA) are varied, encompassing urticaria, angioedema, gastrointestinal symptoms and anaphylaxis. Diagnosis is difficult based on clinical history alone as there are many differential diagnoses to exclude. Specific IgE (sIgE) to alpha-gal is considered a useful diagnostic test. Sensitisation to alpha-gal is considered a prerequisite to MMA. In Australia, one major mechanism is through tick bites from *Ixodes holocyclus*.

**Methods:** We performed a retrospective analysis of results of sIgE to alpha-gal obtained between January 2014 and December 2016 inclusive in a tick-endemic population in Sydney, Australia. 118 results were included in the study.

**Results:** We used a cut-off for positivity of 0.35 kUA/L. Fifty-nine results (49.6%) were positive, however, only 26 (21.8%) had MMA. Fifty-one subjects reported a history of tick bite from *Ixodes holocyclus*, and 31 (60.8%) had a positive test despite no clinical features of MMA.

**Conclusions:** sIgE to alpha-gal does not add any further information to clinical history in the diagnosis of MMA. It only confirms that the patient has had a tick bite (in our population by *Ixodes holocyclus*). In our experience, this can be ascertained by the individual or at a clinical review. A reduction in the number of assays to sIgE to alpha-gal performed would reduce costs to these tick-endemic communities.

**P45**

**FALTERING GROWTH AND FEEDING DISORDERS IN THE FIRST 2 YEARS OF LIFE IN FOOD ALLERGIC CHILDREN**

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**Objectives:** The purpose of the study was to describe the food allergy profile and determine feeding disorder and faltering growth rates in 0–24 month old food allergic children newly presenting to a tertiary allergy clinic in Southern Adelaide.

**Methodology:** A 12-month single centre retrospective case note review was conducted for all children aged 0–24 months, attending their initial allergy clinic appointment from 1 July 2011 to 30 June 2012. Data was collected on food allergy clinical characteristics as well as anthropometric data for birth, initial appointment and 24 months of age to determine growth trajectory. A full 2 or more World Health Organisation percentile lines from birth for one or more anthropometric measures defined faltering growth for our cohort.

**Results:** Food allergies included egg, peanut, cow’s milk protein, present in 62 (67%), 47 (51%) and 45 (49%) respectively. Allergies were exclusively IgE mediated in 54 (59%) and purely non-IgE mediated in 14 (15%); 24 (26%) had concurrent IgE and non-IgE mediated food allergies. 81 (90%) experienced chronic food allergy and atopy related symptoms. Feeding disorders were identified in 20 (22%). Faltering growth was evident in 25 (27%) at initial appointment, which resolved following clinical intervention in 10 (77%) of 13 children measured at 24 months of age.

**Conclusions:** Chronic food allergy and atopy associated symptoms were almost universal, indicating substantial disease burden. Feeding disorders and faltering growth were both common and we recommend all infants with food allergy to be regarded as vulnerable and receive proactive assessment and intervention for these complications of food allergy.

**P46**

THE ‘CHALLENGES’ OF PAEDIATRIC ALLERGY CARE IN A HIGHLY FOOD ALLERGY SUSCEPTIBLE AUSTRALIAN POPULATION

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**Background:** The Department of Allergy and Immunology at the Royal Children’s Hospital Melbourne sees over 6000 outpatients from across south eastern Australia annually. A large proportion of these visits generate challenge requests.

In 2011, the Health Nuts study revealed ‘10.5% of Melbourne Children have challenge proven food allergy’ (Allen, K. JACI 2011)

**Aim:** The aim was to perform an up to date audit of challenge provision in the setting of a highly food allergy susceptible population.

**Method:** A retrospective data base review of all paediatric challenges was performed over a 12 month period from May 2016 to April 2017.

The purpose of this audit was to determine:

- Total number of challenges performed
- Types of challenges performed
- Rates of positive/negative/conclusive challenge outcomes
- Anaphylaxis rate of challenges
- Age at time of challenge

**Results:** The number of outpatients seen generated 1664 challenges per year for the Allergy Care area, a nurse led unit located within Day Medical Care.

Of these, 86% were food challenges, 9% were drug challenges and 5% other (latex, exercise, vaccine and intradermal testing) with a rate of positive challenges of 16%, anaphylaxis of 1% of all challenges and 8% of all positive oral food challenges. The median age of patients was 7.9 years.

**Conclusion:** This data enables us to continue to develop allergy services to satisfy current demand and to plan for future needs in this evolving allergy population.

**P47**

**PAEDIATRIC OBSERVED FOOD CHALLENGES IN NEW ZEALAND: A CASE FOR DIVERSIFYING CARE**

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Paediatric food allergy practice requires access to an observed food challenge (OFC), the gold standard investigative tool. This process requires supervision by trained health professionals experienced in management of acute allergic reactions, including anaphylaxis. In New Zealand, OFCs are done in both a tertiary care paediatric center (Starship Children’s Hospital SCH) as well as numerous regional paediatric sites. We present the prospective data obtained from food challenges undertaken in an 18-month period from September 2015 to March 2017.

**Methods:** Food challenges were conducted at 6 regional paediatric centers across the North and South Island and at SCH, Auckland. Decision for OFC was made by the treating physician and based on history and testing for food specific IgE (skin prick and/or serum specific IgE). Open label food challenge protocols were standardised to the ASCIA guidelines where possible and published ‘stop’ criteria were employed. Data was prospectively obtained, deidentified, compiled and analysed at the end of the study period.
Results: During the 18-month study period 1104 children underwent OFC. Forty three percent of the challenges (473) were conducted at SCH. There was no significant difference between the rates of OFC clinical reaction at SCH (113/473 – 24%) compared to the regional sites, independently or combined, with an average reaction rate of 24% (range 13–31%). Anaphylaxis was seen at all but one site. This occurred in 14% of those that reacted at SCH (16/113) and at an average of 16% (24/154) in regional children (range 0–23%).

Conclusion: Paediatricians and experienced allied health professionals are able to successfully and safely undertake OFC for children in regional areas with outcomes that replicate those in a tertiary centre. This reduces travel costs, public expenditure and tertiary waitlists while maintaining optimum allergy care provision.

P49 IMPROVING PAEDIATRIC ANAPHYLAXIS MANAGEMENT OUTCOMES IN THE EMERGENCY DEPARTMENT THROUGH TARGETED EDUCATIONAL ACTIVITIES: A 3-YEAR RETROSPECTIVE AUDIT IN A VICTORIAN REGIONAL CENTRE

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Background: A recent state-wide publication from the Victorian Paediatric Clinical Network Anaphylaxis Expert Group has provided recommendations on discharge procedures from the Emergency Department to address deficiencies in paediatric anaphylaxis management.

Objective: To determine if a targeted education program to Emergency Department staff leads to improved management of paediatric anaphylaxis within the department and at discharge.

Methods: A retrospective review of the electronic records of all paediatric presentations to the emergency department at a large regional centre over a 3-year period was performed on entries containing final diagnoses terms of anaphylaxis, allergy unspecified, dermatitis due to ingested food, food reaction non-dermatitis, urticaria and vaccine complication. Targeted education was introduced at 12- and 18-months during the 3-year study period consisting of a single, 40-min audio-visual presentation by paediatric staff to Emergency Department staff.

Results: In the first 12 months prior to targeted education, 17 patients fulfilled the Australasian Society of Clinical Immunology and Allergy (ASCIA) clinical diagnostic criteria for anaphylaxis. 8 patients (47%) were given an alternative, less serious, diagnosis. Only 4 patients (40%) were given adrenaline in the emergency department. At discharge, only 2 patients (20%) were given EpiPen® prescription with no documented training; 1 patient (10%) received an anaphylaxis management plan and none were referred to an allergy specialist. Following the targeted education program 22 patients fulfilled ASCIA clinical diagnostic criteria for anaphylaxis. 9 patients (43%) were given an alternative, less serious, diagnosis. The appropriate use of adrenaline increased by 21%. At discharge, the supply of an EpiPen® prescription with documented training increased by 19%; the supply of an anaphylaxis management plan increased by 16% and referral to an allergy specialist increased by 33%.

Conclusion: Targeted education with minimal time and specialist knowledge requirements to Emergency Department staff improves management of paediatric anaphylaxis within the department and at discharge.

P50 CLINICAL SERVICE REDESIGN: ADOLESCENTS WITH FOOD ALLERGY

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Introduction: As the initial cohort from Australia’s ‘allergic epidemic’ reaches adulthood the prevalence of adolescents with food allergy (FA) is rising and placing increasing burden on the healthcare system. This project reflects on current practice and offers potential solutions to improve management and aid transition to adult health services.

Method: A clinical service redesign project conducted at the Immunology department of Princess Margaret Hospital, Western Australia. There were several stages and input from staff, patients and their families.

Results: Families remained focused on the hope of outgrowing FA despite available literature suggesting this was extremely unlikely in adolescence. A major contributing factor was clinical structure with a focus on skin prick testing (SPT) and long wait periods. The inefficient use of time missed opportunities to improve health knowledge and practice. This was reflected in patient/parent surveys; families reported minimal teaching from health professionals regarding reading food labels and/or EpiPen training. Worryingly most adolescents reported teaching from parents alone. There was a significant discrepancy between patient confidence reading food labels and parent confidence in their child’s ability. In addition, the majority of adolescents reported poor EpiPen carriage. In response to these concerns a pilot clinic was devised with a focus on group teaching by dieticians and specialist nursing staff. A research Q&A was