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Results: We demonstrated that three IP sensitisations with 10μg of BTP mixed with alum and subsequent four challenges with BTP could induce significantly increased levels of serum allergen-specific IgE and IgG1, as well as eosinophils in blood and spleens in BALB/c mice. Sensitisation with TM-BTP followed by oral challenges with Abal could elicit serum IgE and IgG1, however reduced compared to homologues challenges with BTP. Similar results were demonstrated in TM-Abal sensitised mice after challenges with BTP. Splenocytes incubated with TM from BTP or Abal secreted elevated levels of IL-5 and IL-13.

Conclusions: We demonstrate for the first time that TM-BTP sensitised mice without previous exposure to Abal, elicited some Th2 responses after oral challenges with Abal. Furthermore, TM-Abal sensitised mice could respond to BTP, however very mildly. These findings suggest that the molecular amino acid sequence homology of both TMs might contribute to clinical cross-reactivity among shellfish species. This model provides an approach to further characterise clinical cross-allergenicity and develop immunotherapeutic treatments for allergic patients.

ASCIA-P15
AUDIT OF FOOD ALLERGY PREVENTION ADVICE IN INFANT FEEDING EDUCATION MATERIAL WRITTEN FOR AUSTRALIAN CONSUMERS

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Background: Recognising the important role early feeding has in programming the immune system the ASCIA Infant Feeding Advice was first published in 2008, and updated as new evidence has been published in 2010 and 2016.

The aim of this audit was to compare allergy specific content of infant feeding educational material written for consumers with the NHMRC infant feeding guidelines and ASCIA infant feeding advice. The results of this audit informed debate during the May 2016 CFAR infant feeding summit.

Methods: Australian websites of children's hospitals, early child health organisations and consumer groups providing information related to diet during pregnancy, breast-feeding and early infancy were searched in March 2016. Policy documents and consumer-focussed information were included. Web-archived material was excluded.

Results: Twenty-five sets of infant feeding information were identified (four policy documents, 11 websites, and 10 consumer booklets; dated 2002 to 2015). Twenty-four were from government organisations (state or national) and one national non-government funded organisation.

Food allergies were discussed in 18 of 25 resources. Recommended length of exclusive breast-feeding and timing of commencing solid foods was consistently around 6 months, with some slight variation in wording.

Advice regarding to not delay introduction of common allergens into babies' diets was generally consistent with NHMRC and ASCIA recommendations, however the audit identified a number of resources that still recommended delayed introduction of common allergens.

Conclusion: Consumers have access to a plethora of web based health information. It is imperative that information about infant feeding from health care authorities is simple, evidence-based and consistent to avoid confusion amongst consumers. Use of harmonised wording related to infant feeding guidelines to prevent allergies will provide clear messaging related to the timing of introduction to solid foods and inclusion of allergens in the early diet.

ASCIA-P16
IDENTIFICATION OF NOVEL OYSTER ALLERGENS USING A COMBINED TRANSCRIPTOMIC AND PROTEOMIC APPROACH FOR IMPROVED COMPONENT RESOLVED DIAGNOSIS

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Background: Increasing production and consumption of mollusc is associated with the rise in prevalence of mollusc allergy worldwide, currently ranging from 0.15% to 1.3% of the general population. However, the elucidation of mollusc allergens for better diagnostics still lags behind other seafood groups such as fish and crustacean. Genomic data have been utilized previously for improved identification of non-food allergens by performing similarity searching using the BLAST program. Based on the published genome of the Pacific oyster (*Crassostrea gigas*) we aimed to identify the complete potential oyster allergen repertoire using bioinformatics analysis, and to investigate identified protein allergenicity using a combination of immuno-chemical methods and proteomic analysis.

Results: Ninety-five potential allergenic proteins of the Pacific oyster were discovered using *in silico* analyses. These proteins were of same protein family and had more than 50% amino acid identity with their homologous allergens. The allergenicity of these proteins was characterized using a combination of immunoassay and transcriptome-derived proteomics analyses. However The 2D-immunoblotting results showed only twenty two IgE-reactive spots in the raw extract of the Pacific oyster, and six spots in the heated extract. The identity of these IgE-reactive proteins was investigated by mass spectrometry. Sixteen allergens were identified, some with two or more isoforms.

Conclusions: The combination of genomics coupled to proteomics and IgE-reactivity profiling is a powerful method for the identification of novel allergens from food sources. Using this combination approach we were able to expand the current knowledge on IgE-reactivity to various proteins of the Pacific oyster. These newly identified allergens and knowledge of their gene sequences will facilitate the development of improved component resolved diagnosis and future immunotherapy approach for oyster allergy.

ASCIA-P17
Food Challenge Outcomes for Ultra-High Temperature (UHT) Milk in Children with Cow's Milk Allergy

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Background: Cow's milk allergy (CMA) is one of the most common childhood food allergies. Seventy to eighty percent of CMA children tolerate heated-milk products probably hastening resolution of their CMA. It is important for the paediatric allergist to be able to identify heated-milk-tolerant children. Ultra heat treated (UHT)-milk is processed by rapid heating achieving protein denaturation, reducing allergenicity while retaining nutritional value. This study was set out to identify (i) whether small skin prick test wheal size to UHT-milk (<5 mm) would predict UHT-milk tolerance and (ii) define clinical characteristics that assist the clinician in identifying UHT-milk tolerant children.

Methods: One hundred and fifty four children aged between 1 and 17 years were skin prick tested. Of the forty six eligible children, twenty were enrolled and underwent oral UHT-milk challenges.

Results: Ten children (50%) tolerated UHT-milk and the remaining 10 failed their challenge. SPT size to UHT-milk was not significantly different between UHT-tolerant and UHT-reactive children (4 vs 4 mm, respectively). However, the presence of more than 3 food allergies (30% in UHT-tolerant vs 50% in UHT-reactive) or asthma (40% in UHT-tolerant *vs* 70% in UHT-reactive) correlated with a higher likelihood of reaction.

Conclusions: This study shows for the first time the results of challenges with UHT-milk in CMA children. Individuals with multiple food allergies and/or asthma were more likely to react including anaphylaxis. Challenges

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