Abstract O-165 Table 1

	Odds-ratio	Confidence interval (95%)	p-value
PFOS	4.84	1.11–21.17	0.04
PFOA	1.85	0.39–8.66	0.44
PCB-153	1.04	0.05–20.42	0.62
P,p′-DDE	1.00	0.99–1.01	0.66
MECPP	2.01	0.26–15.61	0.50
MEHHP	0.20	0.02–1.73	0.15
MEOHP	0.18	0.01–2.34	0.19
MEHP	0.98	0.93–1.03	0.38

conclusion, prenatal exposure to endocrine disrupting chemicals poses children at risk of developing allergic symptoms.

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O-166 WITHDRAWN

O-167 BENEFICIAL EFFECTS OF SHORT-CHAIN GALACTO – AND LONG-CHAIN FRUCTO-OLIGOSACCHARIDES, BIFIDOBACTERIUM BREVE AND GLUTAMINE ON FOOD ALLERGY-INDUCED BEHAVIOURAL CHANGES IN MICE

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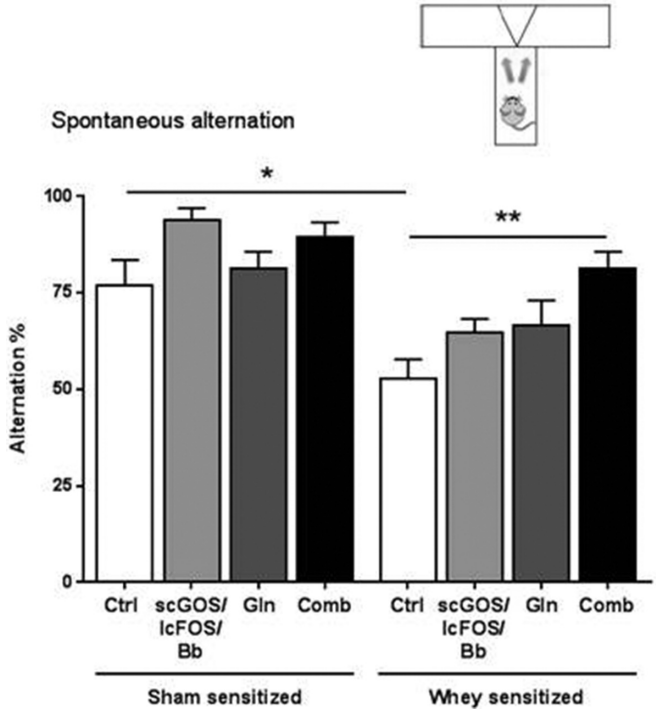
Background and aims Recent studies reveal an important link between the intestinal immune system, microbiota, brain and behaviour. Previously we have shown that food allergy in male mice caused behavioural and neurochemical changes. This study aimed to investigate the effects of a dietary intervention with immunomodulatory short-chain galacto – and long-chain fructo-oligosaccharides (scGOS/lcFOS), *Bifidobacterium breve* (Bb) and glutamine (Gln) on behavioural impairments in food allergic mice.

Methods Male C3H mice were fed a control, scGOS/lcFOS/Bb, Gln, or scGOS/lcFOS/Bb/Gln (comb) diet shortly after weaning and 2 weeks prior to first sensitisation with whey and cholera toxin (CT), or CT alone. Mice were sensitised for 5 weeks and subsequently orally challenged. Spontaneous alternation was examined in a T maze test 2 days after the last sensitisation and a social interaction test was conducted 1 day after oral challenge. Spontaneous alternation was used to measure exploratory behaviour and spatial memory.

Results Supplementation with scGOS/lcFOS/Bb or Gln partially prevented reduced spontaneous alternation, whereas supplementation with scGOS/lcFOS/Bb/Gln completely normalised alternation. Both scGOS/lcFOS/Bb and Gln partially attenuated reduced social behaviour in food allergic mice. No additional effect of the combination was observed on social behaviour. Supplementation with scGOS/lcFOS/Bb and/or Gln did not reduce allergic sensitisation, measured by whey-specific immunoglobulins.

Conclusions Supplementation with scGOS/lcFOS/Bb or Gln partially prevented food allergy-induced behavioural impairments and the combination normalised impaired alternation, without changing allergic sensitisation. Therefore, it is of interest to further investigate the effects of dietary supplementation with scGOS/lcFOS/Bb and Gln on immune-induced behavioural impairments in infants.



Abstract O-167 Figure 1

O-167a INFLAMMATORY SUBTYPES IN WHEEZING INFANTS: ASSESSMENT AND IDENTIFICATION USING INDUCED SPUTUM

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Background Patterns of wheezing during early childhood may indicate differences in aetiology and prognosis of respiratory illnesses.

Objectives This study evaluated sputum cytology in infants with recurrent wheezing to classify sputum inflammatory phenotypes and assessed their characterisation over time.

Methods Sputum induction were performed in 890 infants with recurrent wheezing. Samples were classified as eosinophilic (>2.5% eosinophils), neutrophilic (>54% neutrophils), mixed granulocytic (>2.5% eosinophils, >54% neutrophils), or paucigranulocytic (≤2.5% eosinophils, ≤54% neutrophils). Sputum induction were repeated after 3 months in infants with oral montelukast sodium (4 mg, QN) or nebulizer ICS (Budesonide aerosol 0.5 mg, Bid).

Results Total 504 infants (58.1%)had raised levels of inflammatory cells, eosinophilic 30.6%, neutrophilic 65.2%, mixed granulocytic 4.2%. Variabilities in sputum inflammatory phenotype were observed in both the severe and the mild to moderate wheezing groups. Changes in phenotype were not related to inhaled ICS or oral montelukast sodium, nor were it reflected in a change in tidal pulmonary function. About 27.3% infants fulfilled the criteria for eosinophilia and there were no differences in severity even atopy between non-eosinophilic and eosinophilic wheezing.

Conclusions Raised levels of inflammatory cells were frequently found in infants with recurrent wheezing. Sputum inflammatory

phenotype was not stable, unlike asthma, neutrophilic was the most common inflammatory phenotype in infants with wheezing, and it was no business of eosinophilia.

O-167b INFLUENCE OF MONTELUKAST ON THE RELIABILITY OF SKIN PRICK TESTING WITH INHALANT ALLERGENS

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Background and aims There is no much data in the literature about the effects of montelukast on the skin reactivity to inhaled allergens. We analysed whether the skin reactivity to allergens significantly changed after 30 days of daily application of montelukast.

Methods Thirty children with asthma (7–14 y) and with skin reactivity to inhaled allergens were receiving 5 mg of montelukast daily for 30 days. Skin prick testing was done before and after therapy. Size of the papule was measured at twentieth minute after allergen application as quantitative (mean of the largest and normally set diameter on it) and qualitative-bimodal: positive/negative (cut-point: 3 mm). The control group consisted of children of the same age (n = 30) with positive skin reactivity who did not receive any medication and has been tested in the same way. The size of the papule, and the number of positive/negative tests for both groups were compared before and after therapy. The frequency of test conversion in both directions (crossing of positive to negative and vice versa) in the experimental group was compared to the control group.

Results After thirty days of montelukast therapy the size of the papule in both groups was not significantly changed ($p > 0.05$). Compared to the control group, in the experimental group, there was no significant difference in the change of skin reactivity to allergens, either quantitatively ($p > 0.05$), or qualitatively ($p > 0.05$) evaluated.

Child Protection

O-168 RISK AND RESILIENCE FACTORS FOR EARLY CHILD DEVELOPMENT: A COMMUNITY-BASED COHORT STUDY IN ALBERTA, CANADA

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Background and aims One in six children experience developmental problems at school entry. Early intervention is more effective than later remediation; however, to date, we lack a comprehensive understanding of risk and protective factors. The objectives of this study were to describe the key risk factors for poor child development at age 12 months and to identify factors that reduce the potentially adverse influence of poor maternal mental health and low socioeconomic status on child development.

Methods We used data from the All Our Babies (AOB) study, a prospective pregnancy cohort in Calgary, Alberta. Five domains of child development at age 12 months were assessed via parent report using the Ages and Stages Questionnaire (ASQ) from approximately 1500 mothers. The associations between putative risk factors and poor child development were examined in bivariate and multivariable analyses. A bivariate resilience analysis was also conducted to identify factors related to positive child development in the presence of maternal mental health or sociodemographic risk.

Results Key risk factors for poor child development at age 12 months included poor maternal mental health during pregnancy, and low community resource use and lack of adult interaction in the first postpartum year. In addition to parenting efficacy, uptake of community resources and increased adult interaction were protective of poor child development among children most at risk for this outcome.

Conclusions As many of the identified risk and protective factors are modifiable, these results can inform community based strategies to optimise early childhood development.

O-168a YOUNG PEOPLE AND FAMILY INVOLVEMENT IN PAEDIATRIC RESEARCH NETWORKS: OUTCOMES OF A SURVEY AMONG ENPR-EMA NETWORKS

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Background and aims Engaging and involving young people in clinical research has many benefits including greater understanding of young people's perspectives and improvements in study design and the quality of clinical research.[1] The nature and extent of support for the engagement of young people in research in Europe is unclear.

Methods A survey was sent to members of the European network of paediatric research at the EMA (Enpr- EMA),[2] (Figure 1).

Results While more than half of the responding networks (N=17) actively involve young people/families, only 3 networks have dedicated resources and strategies in place to support this activity,[3–5] (Table 1). Activities undertaking with young people/families in Enpr-EMA networks are summarised in Table 2.

Conclusions The majority of networks requested guidelines on establishing and maintaining young people's advisory groups and/or identified the need for training for this activity. Responsible and effective involvement of young people/family in paediatric clinical research has been established only in some European networks and should be generalised urgently.

Acknowlegements Not applicable.

Abstract O-168a Table 1 Engagement of young people and family members in Enpr-EMA networks

Young people/family members engagement	Total	Yes	No
Involvement/consultation with young people/family	17	8	9
Dedicated staff for young people/family involvement	17	7	10
Specific budget for young people/family involvement	17	3	14
Specific strategies for young people/family involvement	17	3	14