Conclusion Findings support the biological hypothesis of the importance of mode, timing of birth and breastfeeding in development of gut microbiota and immune system in early life. Spontaneous vaginal birth at 39+ weeks gestation with any exposure to breastmilk at birth minimises the risk of AGE hospital admission in early childhood.

O-172 INFANT FEEDING AND ANTI-TISSUE TRANSGLUTAMINASE ANTIBODY LEVELS IN CHILDREN WITH SUBCLINICAL CELIAC DISEASE: THE GENERATION R STUDY

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Objective To examine whether the timing of gluten introduction and breastfeeding duration are associated with subclinical celiac disease in children at the age of 6 years.
Methods This study was embedded in the Generation R study, a population-based prospective cohort study. Participants included 1679 Dutch children positive for HLA-DQ2/DQ8. Data on the timing of gluten introduction (<6 months vs. ≥6 months) and duration of breastfeeding (<6 months vs. ≥6 months) were obtained by questionnaire. Serum samples were analysed for anti-tissuetransglutaminase (tTG) levels at age 6 years. Anti-tTG levels were categorised into negative (≤7 U/ml) and positive (>7 U/ml) levels. Positive anti-tTG levels were further categorised based on the ≥10 times upper limit of normal (ULN) levels of the test kit (>7–70 U/ml and ≥70 U/ml). Multivariable logistic regression analyses were performed.
Results Positive anti-tTG levels were found in 43 children of which 26 children had levels above the 10 times ULN (≥70 IU/ml). The introduction of gluten from the age of 6 months onwards and breastfeeding for 6 months or longer were not significantly associated with positive anti-tTGlevels. In addition, the timing of gluten introduction and duration of breastfeeding were not significantly associated with positive anti-tTG levelsbelow and above the 10 times ULN.
Conclusions Delayed introduction of gluten beyond the age of 6 months does not increase the risk of subclinical CD. Also, breastfeeding for 6 months or longer does not decrease the risk of subclinical CD in children at 6 years of age.

O-173 EVALUATING THE POTENTIAL ROLE OF SMALL INTESTINE CONTRAST ULTRASONOGRAPHY IN PAEDIATRIC CROHN'S DISEASE: 5 YEAR EXPERIENCE IN A SINGLE CENTRE

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Background and aims Small intestine contrast ultrasonography (SICUS) is an emerging, non-invasive technique which accurately assesses small bowel lesions associated with Crohn's disease (CD) in adult patients, without exposure to medical radiation. We report our 5 year experience in a paediatric cohort.
Methods Patients with suspected or established CD who underwent SICUS were identified and radiological findings collated. SICUS was compared to conventional transabdominal ultrasound (TUS), ileocolonoscopy and magnetic resonance enterography (MRE). Accuracy and agreement of SICUS in detecting small bowel lesions and CD-related complications was assessed using kappa (κ) coefficient statistics.
Results 93 patients (median age 16 years, range 2–20, 49 male) underwent SICUS; 58 had suspected and 35 established CD. In suspected CD, sensitivity and specificity of SICUS in detecting CD small bowel lesions were 81.82% and 100% and TUS 85.71% and 87.50%, respectively. In established CD, sensitivity and specificity of SICUS were 83.33% and 100% and TUS 80.00% and 100%, respectively. Agreement with ileocolonoscopy was fair for the presence of lesions (SICUS, κ=0.38, TUS, κ=0.31). Agreement between SICUS and ileocolonoscopy was good for detecting strictures (κ=0.66) with a sensitivity of 100% and specificity of 97.62%. Comparing SICUS and TUS with MRE, agreement for the presence of lesions was κ=0.63 and 0.53, respectively. Agreement between SICUS and MRE was good for detecting strictures (κ=0.77) and fair for assessing dilatation (κ=0.45).
Conclusions SICUS offers a promising radiation-free, low cost alternative for diagnosing and monitoring paediatric CD small bowel complications. Its wider use should be adopted.

O-174 THE COMBINATION OF SCGOS/LCFOS WITH FERMENTED INFANT FORMULA REDUCES THE INCIDENCE OF COLIC IN 4 WEEK OLD INFANTS

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Background and aims The effects on gastrointestinal (GI) tolerance and prevalence of colics (secondary outcome parameters) of a novel infant formula (IF) were explored in a randomised, controlled, double-blind, multicenter intervention study on growth, safety and GI tolerance. The novel IF combined the fermented IF Lactofidus™(LF) with short-chain galacto-oligosaccharides and long-chain fructo-oligosaccharides (scGOS/lcFOS, ratio 9:1, 0.8 g/100 ml).
Methods 432 healthy, term infants aged 0–28 days were randomised after parent's autonomous decision to discontinue breastfeeding. IF with scGOS/lcFOS and 50%LF (LF50+), IF with scGOS/lcFOS and 15%LF (LF15+), and as controls IF with 50%LF (LF50), or IF with scGOS/lcFOS (IF+) were tested. Parents completed standardised 7-day diaries with daily entries on GI symptoms and crying in monthly intervals until 17 weeks of age. Colic was defined by adapted Rome III criteria.
Results Growth and safety outcomes were within the normal ranges. Based on low mean GI symptom-scores, the newly-developed IFs were well tolerated. The incidence of colic was highest (16.1%) at the 4 week visit and in line with literature (i.e. 20.5% at 4 weeks of age [Iacono *et al*., 2005]). The incidence of colic was significantly lower with LF50+ (8%) compared to IF+ (20%)(p = 0.034; chi-square test), and LF50 (20%)(p = 0.036) at the 4 week visit. Colic was found to be associated with

clinically relevant flatulence, abdominal distension, constipation, diarrhoea, and regurgitation at four weeks of age.
Conclusions The combination of scGOS/lcFOS with 50% fermented IF displayed a 60% lower incidence of colic in infants at 4 weeks of age compared to control IFs.

O-175 **WITHDRAWN**

Headache and Genetics

O-176 NEW TUNISIAN MUTATION IN PYRIDOXINE – DEPENDENT EPILEPSY

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Background and aims Pyridoxine -dependent epilepsy (PDE) is a rare autosomal recessive disease that manifests at birth by subintrant seizures and requires lifelong treatment with vitamin B6. Mutations in the gene encoding ALDH7A1 have been reported in most patients.

Our goal was to seek a possible mutation in infants suspected of PDE monitored in the neonatal unit of Sfax (Tunisia).
Methods A genetic study looking ALDH7A1 mutation was performed in two groups: a first group of 40 people consisting of 12 children suspected to have pyridoxine – dependent epilepsy and all their family members; a second group of 50 random people in the general population and without any case of epliepsy.
Results Molecular analysis in the first group showed the same mutation in gene ALDH7A1 in the 12 children having suspect PDE: a new transition T in C. the analysis of this variation showed it creates a restriction site DraII. All parents of these children had the mutation in the heterozygous state. No mutation was identified on the ALDH7A1 gene in the control group.

The reconstruction of the genotype of all affected family members, said that all holders of c.1364T > C mutation had the same allele, indicating a common ancestor of all these families.
Conclusion The diagnosis has nowadays become easier in our region through genetic study. The discovery of a founder effect in a rare disease is essential for genetic diagnosis and genetic counselling of families affected by PDE in Tunisia.

O-177 DYNAMIC EXPRESSION PATTERN OF TWO PRO-INFLAMMATORY CYTOKINES AND TWO INFLAMMATION RELATED MOCRORNAS IN MESIAL TEMPORAL LOBE EPILEPSY DEVLOPMENT IN THE DEVLOPING BRAINS

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Background and aims This study investigated the dynamic expression pattern of interleukin-1β and tumour necrosis factor alpha (TNF-α) as a proinflammatory cytokines and microRNA (miR)-146a and miR-155 as a posttranscriptional inflammation-related miRs in the hippocampi of an immature rat model and-children with MTLE.
Methods To study the expression of IL-1β, TNF-α, miR-146a and miR-155, we performed a reverse transcription polymerase chain reaction, Western blot, andreal-time quantitative PCR on the hippocampi of immature rats. Expressions were monitored in the acute, latent, and chronic stages of disease (2 h and 3 and 8 weeks after induction of lithium-pilocarpine status epilepticus, respectively), and in control hippocampal tissues corresponding to the same timeframes. Similar expression methods were applied to hippocampi obtained from children with MTLE and normal controls.
Results The expression of IL-1β, TNF-α, miR-146a and miR-155 were up-regulated in children with MTLE. In the immature rat model, IL-1β and miR-146a are significantly up-regulated, but in opposite ways: in the acute stage IL-1β expression is highest, when miR-146a expression is at its lowest level; thereverse of this expression occurs in the latent stage, while both are up-regulated in the chronic stage. TNF-α and miR-155 dynamic expressions showed the same fluctuating upregulation in the three stages of the MTLE development.
Conclusion The dynamic expressions of (IL-1β and miR-146a) and (TNF-α and miR-155) in the different stages of MTLE suggesting an interactive relationship. Therefore, modulation of IL-1β–miR-146a and TNF-α–miR-155 axesmay be novel therapeutic targets in the treatment of MTLE.

Health Organisation

O-178 ASSESSMENT OF A SIMULATION BASED TRAINING COURSE FOR INTERNS IN NEONATOLOGY AND PAEDIATRIC EMERGENCY MEDICINE

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Background and aims A clinical intern must balance patient care and the ongoing acquisition of medical knowledge. With increasing clinical responsibilities and patient overload, medical training is often left aside. In order to improve their medical education in 2012, we conceived and implemented a training course for interns in neonatology and paediatric emergency medicine. The course was composed of didactic sessions and several simulation based seminars for each year of residency. We conducted this study to assess the impact of our program on residents' clinical skills and satisfaction.
Methods A survey was conducted at the end of each seminar. The students were asked to complete a form, on a 1 to 5 scale, which evaluated the course and its impact on residents' satisfaction and clinical skills, including theoretical knowledge, bedsides practical skills, overall medical competence and team work.
Results 44 interns attended the course and 41 of them completed the evaluation form (93%). The mean for each session was consistently above 4. The mean satisfaction score for the entire course was 4.78+/-0,42. Over 80% of students felt that their clinical skills were improved with the course.
Conclusion Medical education is an important component of residency training. Our training course responded to the needs of our students with consistently satisfactory evaluations. We encouraged teachers to ask for students' assessment in order to improve ongoing medical education. The main limit of this study was the lack of information on the impact of the course on patient care.