Probiotics can improve alertness status innate and cellular

Methods: Male Balb/c divided into 4 treatment groups. Two groups given probiotics for 21 days, one group will be given exposure to LPS on day 15. One group will exposure by LPS alone and one group as control group without treatment. All groups terminated after a day-to-21. Immunohistochemical examination of ileal mucosa using monoclonal antibodies specific for dendritic cells, TLR-2, TLR-4, IL-1, IL-2, IL-4, IL-6, IL-10, IL-2, TNFα and TGFβ.

Results: In LPS group there were downregulation both innate and cellular immune system responses of dendritic cells and adaptive cellular immune response as well as the balance TH1, TH2, TREG through TLR-2 sensors and TLR-4 on the intestinal mucosa Balb/c healthy status and Balb/c LPS exposure status is unclear. The purpose is to examine the effect of probiotics against dendritic cells regulation of innate immune responses and adaptive cellular immune response as well as the balance TH1, TH2, TREG through TLR-2 sensors and TLR-4 on the intestinal mucosa Balb/c healthy status and Balb/c LPS exposure status is unclear. The concept of improving host defense as a preventive effort in

Results: Preliminary findings indicate considerable variability in how parents/guardians and children with and without food allergy communicate when making food choice decisions. In general, children with food allergies seem to be more cautious and appear to have less responsibility when choosing their foods than healthy children of the same age.

Conclusions: Given the preliminary findings, this study will illuminate how food allergy affects the way parents/guardians and children make their food choice decisions.

FOOD ALLERGY GASTROINTESTINAL MANIFESTATIONS

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Probiotic Effect of the Regulation of Innate Immune Response, dc and Adaptive Cellular Immune Response and the Balance TH1, TH2, TREG Through Sensors TLR-2 AND TLR-4, on the Intestinal Mucosa in BALB/C Health Status and Balb/C Status of Exposure to LPS

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Background: The concept of improving host defense as a preventive effort in

Results: Preliminary findings indicate considerable variability in how parents/guardians and children with and without food allergy communicate when making food choice decisions. In general, children with food allergies seem to be more cautious and appear to have less responsibility when choosing their foods than healthy children of the same age.

Conclusions: Given the preliminary findings, this study will illuminate how food allergy affects the way parents/guardians and children make their food choice decisions.

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Gluten Induced Systemic Disease (GISD) with Distinct Clinical Phenotype Different from Celiac Disease

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Background: Patients who have complex presentation involving multiple organs are difficult to diagnose. Non-infectious diseases that present with similar clinical patterns yet test negative to the known markers often arise due to certain change in environment or exposure. Such syndromes and diseases require careful study and call for new diagnostic modalities.

Methods: Patients who have complex presentation involving multiple organs are difficult to diagnose. Non-infectious diseases that present with similar clinical patterns yet test negative to the known markers often arise due to certain change in environment or exposure. Such syndromes and diseases require careful study and call for new diagnostic modalities.

Results: Average length of symptoms prior to diagnosis was 5 years. Of 42 patients 34 were previously treated for 3 or more health issues. None of the patients were previously diagnosed with celiac disease, 7 patients underwent diagnostic endoscopy with biopsies. Most prevalent symptom (94%) was severe fatigue. Following symptoms were reported on questionnaire: sleep problems requiring medications, concentration/memory problem, constipation, depression, headaches/migraine, gastroesophageal reflux, nocturnal muscle spasms, abdominal distension, joint pain, rashes, and gum recession. Most common laboratory abnormality was positive ANA with homogenous pattern. All but 2 patients tested negative to iTG, gliadin and endomyseal antibodies. Of 17 patients screened for food allergy 94% were positive for 10+4 foods by skin test. Hundred percent of patients reported significant improvement at 1 month interval with complete resolution of above listed clinical symptoms at 6 months. Best recovery was achieved in patients when treatment regimen included supplemental therapy with CoQ10, fish oil and digestive enzymes based on papain. Of 25 patients attempted gluten introduction after complete clinical recovery 100% reported relapse of symptoms within 48 hours following gluten challenge.

Conclusions: We report the emergence of new clinical phenotype of non-celiac gluten induced systemic disease (GISD). Although recent publications specifying existence and possible explanation of this condition arise, mechanism is not understood. Thus further studies are needed to facilitate recognition, testing and understanding of GISD.

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Patterns of Food Allergens in Kenyan Children

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Background: To determine the patterns of food allergens in children presenting to pediatric gastroenterology clinic at the Aga Khan University Hospital, Nairobi.

Methods: This data includes children evaluated from March to November, 2010. All the children presenting for evaluation of various gastrointestinal symptoms and who had positive history of atopy in at least one first degree relative were included. History of recurrent cough was sought and the skin was examined for eczema. Skin Prick Test was performed by an expert in allergy and immunology. Prick to Prick Test was done for local foods where commercial antigens were not available. Positive tests were followed by an exclusion and rechallenge programme but this was excluded from analysis due to poor compliance. Analysis was performed to determine frequencies and associations of the different gastrointestinal symptoms and food allergens. Both skin Prick and Prick to Prick results were analysed together.

Results: The commonest food allergens in order of frequency were cow milk (65%), egg (35%), beef (26%), beans (14%), chicken, corn, wheat, soya and rice (9%), fish (8%) and peanut (5%). Common local infant complementary
foods including potatoes, bananas and vegetables all tested positive in 4% of the children. Pumpkin tested positive in one infant who had presented with rectal bleeding. Majority of the children had positive tests to multiple foods. Only 14% of the children had negative tests. The commonest gastrointestinal (GI) symptoms were abdominal pain (38%), constipation (36%), vomiting (14%), diarrhoea (11%), failure to thrive (9%) and colics (3%). Majority of the children had multiple GI symptoms. Eczema and cough were associated symptoms in 9% and 3% of the children respectively.

Conclusions: The prevalence of food allergy as suggested by this study is high in Kenyan children and contributes significantly towards gastrointestinal morbidity. While cow milk, egg and beef are the commonest allergens, the emerging allergy to local infant complementary foods is also significant. The high frequency of multiple allergens partly contributed to poor compliance in the exclusion rechallenge programme due to lack of options on alternative foods.

442 Coincidence of Celiac Disease and Gluten Allergy
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Background: The type I or IV of hypersensitivity reactions according to Gell and Coombs classification may be responsible for clinical symptoms observed after ingestion of gluten - containing products. The mechanisms of these reactions are either IgE-dependent or IgE-independent. Celiac disease based on IgE-independent mechanism is classified as gluten hypersensitivity. Clinical manifestation of celiac disease and gluten allergy is often similar. Correct diagnosis of this disease is particularly important due to the different long-term therapeutic procedures. We would like to assess the incidence of celiac disease in children with gluten allergy.

Methods: The study involved 50 children with abdominal pain, chronic diarrhea, recurrent respiratory and ear inflammation and skin lesions - patients of the Immunological and Gastroenterology Outpatient Clinic of Institute of Mother and Child. The allergy to gluten was confirmed on the basis of positive peripheral blood lymphocytes blast transformation test and detection of allergen-specific IgE antibodies to gluten (f79). In all children plasma concentration of immunoglobulin classes A, G M and IgA or IgG antibodies against tissue transglutaminase (tTGA) were measured.

Results: In children on the study group the type IV of hypersensitivity reaction to gluten was confirmed. In 3 children specific IgE antibodies to gluten was also confirmed (f79 - 1 type hypersensitivity). Anti-tissue transglutaminase antibodies both IgA and IgG were detected in 2 children in whom the concentration of IgA and IgG in serum remained within normal range for age. In these children celiac disease was confirmed by jejunal biopsy.

Conclusions:
1. The predominant frequency of type IV of hypersensitivity reactions in children in response to the gluten antigen should be taken into account in diagnosis of food allergy.
2. In children diagnosed with gluten allergy the test for celiac disease should be performed.

443 Immunoreactivity of β-Lactoglobulin and Identification of the Peptides Generated after Simulated Orogastrointestinal Digestion
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Background: The aim of the study was to evaluate the allergenicity of one of the main allergens from cow milk, β-lactoglobulin (β-Lg) after being digested through a simulated orogastrointestinal digestion and to identify those peptides generated during the digestion process.

Methods: The digestion was performed in 3 steps by using simulated oral, gastric and duodenal fluids. Digestibility of β-Lg was assessed by SDS-PAGE and RP-HPLC. IgE binding of native β-Lg and hydrolysates was evaluated by indirect ELISA, using the sera from 6 milk-allergic patients. The peptides produced during the orogastrointestinal digestion, were identified by liquid chromatography tandem mass spectrometry analysis.

Results: Results showed that β-Lg was progressively degraded during the digestion. Intact β-Lg was observed after the gastric phase and in the first stages of the duodenal digestion. However, no residual β-Lg was observed at the end of the duodenal phase. Immunoassays showed that during the in vitro gastric and duodenal digestion immunoreactivity decreased progressively with an EC50 value increased 150 times at the end of the digestion. Among the products of digestion, 146 peptides were identified. No peptides were found in the oral phase. Forty five peptides were detected in the gastric phase, 71 in the duodenal, and 30 were common in both phases. Between those identified peptides, 4 of them with the sequences LIVQTMK, GLDIQK, IDALNENK, and VLVLDTDYK had been previously described as epitopes of β-Lg.

Conclusions: β-Lg is progressively degraded during the digestion process. Similarly, β-Lg allergenicity is reduced through the simulated digestion with a severe reduction at the end of the duodenal stage. From the digestion products, 147 peptides have been identified. Studies are underway to evaluate the ability to cross the intestinal barrier and to bind to human-IgE of the most relevant identified peptides.

HEALTH OUTCOMES FOR ASTHMA

444 Associations between Self-reported Adherence to Asthma Anti-inflammatory Therapy and Risk Factors for Non-adherence (NA) in Pediatric Patients
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Background: Identifying patient adherence status and reasons for non-adherence are important components of asthma management. GINA 2008 Guidelines have identified risk-factors associated with poor adherence

Methods: Three hundred sixty one parents of children with intermittent and persistent asthma (59.6% male; 64.1% Caucasian; mean age 8.07 years) completed the AsthmaPACT, a 96-item asthma survey hosted by the Asthma and Allergy Foundation of America website. The AsthmaPACT identifies risk-factors for not following treatment recommendations as well as medication use. Asthma surveys were completed from August 2009 thru June 2011.

Results: Descriptive statistics indicated that 259 of the sample reported giving their child one or more of the anti-inflammatory medication prescribed. Of these, 69 (27%) were diagnosed as NA, operationalized as whether a parent reported giving the child anti-inflammatory medication “less than prescribed by their physician.” During the 4 weeks prior to completing the survey, 43.0% were having symptoms daily and 39.4% were using albuterol MDI daily. In this cross-sectional data set, items intended to relate risk factors to NA were examined using chi square (χ2). Parents who claimed that their child receive less anti-inflammatory medication than prescribed, were more likely to report: 1) symptoms from emotional states: crying χ2(df = 2) = 8.643 P = 0.013; frustration χ2(df = 2) = 6.202 P = 0.045; anger χ2(df = 2) = 11.029 P = 0.0042; Parent more likely to see child as anxious or a worrier χ2(df = 2) = 6.527 P = 0.038; 2) Child’s Quality of Life (QoL): is more likely to be affected at school χ2(df = 2) = 12.963 P = 0.002; and interfere with family activities χ2

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