

PP 11

THE DIET IN FOOD ALLERGY AFFECTED CHILDREN: COMMON ERRORS AND POSSIBLE EFFECTIVE SOLUTIONS

S. Ruotolo^a, A. Coruzzo^a, E. D'Auria^b, L. Leone^a, M. Massitti^a, S. Borrelli^a, G. Terrin^a, M. Tardi^a, L. Cosenza^a, R. Troncone^a, E. Riva^b, C. Agostoni^b, R. Berni Canani^a

^a Department of Pediatrics and European Laboratory for the Investigation of Food Induced Disease (ELFID), University of Naples, "Federico II", Italy

^b Department of Pediatrics, University of Milan, Italy

Background. The incidence and prevalence of food allergy (FA) are increasing in paediatric population. The only available treatment for FA-affected children is elimination diet that could be responsible for inadequate dietary intake. Diet monitoring in FA children is important to prevent nutrient deficiency and to provide normal body growth and development.

Aims. To define dietary intake in paediatric outpatients on elimination diet because FA, and to test the efficacy of a correct nutritional intervention.

Participants and methods. Prospective multicentre controlled study including FA affected patients (3–36 months of age) on elimination diet for at least 30 days, consecutively observed in two tertiary centres of Paediatric Gastroenterology and Allergy. For comparison healthy children were also examined. Main auxologic and nutritional parameters collected by a standardized procedure at the enrolment and after 2 months from a professional dietary intervention provided by specialized paediatric dietitians.

Results. The study included 100 children. Of these, 50 (30 boys, median age 20.1, 95% CI 15.6–24.6 months) had FA, and 50 were healthy controls (33 boys, median age 20.5, 95% CI 17.5–23.5 months). Three FA children were lost at the follow-up and were excluded from final analysis. Clinical symptoms of FA were gastrointestinal (78%, vomiting, chronic diarrhoea and hematochezia), associated with atopic dermatitis (14%) and asthma (8%). All but two patients presented allergy to cow's milk (96%), alone or in combination with hen's egg (36%), wheat (5%), tomato (5%), fish (5%); the other two patients had allergy to rice and fish, respectively. The mean length of the elimination diet was 10.3 months (6.7–13.9, 95% CI). FA affected patients presented a more frequent weight (39.0% vs. 8.5%; $p < 0.01$) and height (20.0% vs. 8.5%; $p < 0.01$) below the 10th percentile compared to healthy controls and a weight/height ratio below the 5th percentile (43.6% vs. 4.5%; $p < 0.001$). Sixteen out of 47 (34%) FA affected children presented a dietary reference intake (DRI) below <85% compared to only 1 subject (2%) in the control group ($p < 0.001$). The nutritional intake was not different comparing children with one or more food allergies. The professional dietary intervention was well accepted in all patients and after 2 months the DRI became normal in all subjects (101% of RCI, 97.0–105.4, 95% CI). This resulted in a significant improvement in growth parameters already after 2 months from the start of nutritional intervention.

Conclusions. An unbalanced diet with deficient caloric intake is a frequent feature of FA affected children, determining a significant impact on body growth. This condition could be prevented and resolved by a nutritional counselling. These data should encourage the development of a paediatric FA medical nutrition therapy protocol.

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PP 12

NEUROBEHAVIORAL ASSESSMENT IN CHILDREN AND ADOLESCENT CELIAC PATIENTS (CP) ON GLUTEN-FREE DIET (GFD)

E. Lionetti^a, S. Martorana^b, M. Spina^a, V. Genitori D'arrigo^b, L. Mazzone^b

^a Università degli Studi di Catania, U.O. Di Gastroenterologia Pediatrica/Talassemia, A.O.U. Policlinico Di Catania, Italy

^b Università degli Studi di Catania, U.O. Di Neuropsichiatria Infantile, A.O.U. Policlinico Di Catania, Italy

Background. A high prevalence of anxiety and depression has been reported in untreated coeliac disease patients (CP). At present, the role of a gluten-free diet (GFD) on psychiatric disorders is still poorly known.

Aim. To evaluate anxiety, depression and behavioural disturbances in children and adolescents CP on GFD.

Methods. A total of 70 CP [M 22 (31.4%); median age 13 years] on GFD were studied; a total of 39 healthy subjects [M 14 (35.8%); median age 14 years] matched for gender, age and socio-economic status were studied as a control group. The diagnosis of CD was based on modified ESPGHAN criteria. The neurobehavioral assessment was made according to the Multidimensional Anxiety Scale for Children (MASC) for anxiety, the Children's Depression Inventory (CDI) for depression and the Child Behaviour Checklist (CBCL) for behavioural disturbances.

Results. At MASC and CDI CP showed a significant higher score compared to controls (50 ± 8.3 vs. 42.9 ± 6.6 ; $p < 0.001$ and 8.1 ± 5.7 vs. 4.2 ± 2.2 ; $p < 0.001$). At CBCL there were no significant differences between the two groups.

Conclusions. The present study clearly shows that CP on GFD showed higher level of anxiety and depression, suggesting the need of a psychological support.

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PP 13

PREVALENCE OF POINT MUTATIONS OF *HELICOBACTER PYLORI* IN PAEDIATRIC AGE AND IMPACT ON ERADICATION THERAPY

R. Francavilla^b, E. Lionetti^a, S.P. Castellaneta^a, A.M. Magistà^a, A. De Canio^a, N. Bucci^a, F. Indrio^a, E. Ierardi^b, O. Burattini^a, A. Polizzi, L. Cavallo^b

^a Dipartimento Di Biomedicina dell'Età Evolutiva, Italy

^b CIRGEE, Università degli Studi di Bari, Italy

Background and aim. *Helicobacter pylori* (*H. pylori*) eradication fails in about 25–30% of children, particularly because of the occurrence of resistance to antibiotics [Oderda G, Aliment Pharmacol Ther 2000;14(Suppl. 3):59]. *H. pylori* clarithromycin resistance is increasing worldwide and different mutations are involved in its mechanisms being the point mutation A2143G, A2142G and A2142C the commonest. Recently, molecular methods have allowed to assess these mutations. The aim of our study is to establish the prevalence of primary clarithromycin resistance in the paediatric population of southern Italy, and the distribution of involved mutations, by using a novel method for real-time polymerase chain reaction.

Materials and methods. One hundred and twenty-six *H. pylori*-positive children diagnosed in our centre between January 2002 and June 2006 were enrolled. *H. pylori* infection was detected by histology, rapid urease and urea breath tests (two tests out of three). Clarithromycin resistance was assessed by real-time polymerase chain reaction on paraffin-embedded antral biopsies.

Results. Primary clarithromycin resistance was detected in 33 (26.2%) children. The A2143G point mutation was detected in 21 (63.6%) patients, A2142G in 7 (21.2%), A2142C in 5 (15.2%). Overall eradication rate was significantly higher in children harbouring the *H. pylori* sensitive as compared to resistant strain [84 children (90.3%) vs. 22 (6.7%); $p < 0.002$]. In