

moniae, arthritis, septicaemia or urinary tract infection. There were multiple risk factors for NC in 24 (89%) babies (prematurity, asphyxia, parenteral nutrition, chromosomal disorders, sepsis). In one infant the cause of NC was anti-Rh isoimmunisation and in two infants no cause was identified.

Conclusion. The incidence of NC in NICU is higher than in the general newborn population (2% vs 0,04%). It is to note that in one-third of cases jaundice was absent. In most cases the etiology is multifactorial. Risk factors for NC include prematurity, low weight at birth, sepsis, Apgar score and duration of TPN.

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PP42

EFFECT OF A COMBINATION OF SYMETHICONE AND BACILLUS COAGULANS (COLINOX) ON THE GASTRIC EMPTYING TIME IN INFANTS WITH SYMPTOMATIC GASTROESOPHAGEAL REFLUX (GER): A RANDOMISED, DOUBLE-BLIND, PLACEBO-CONTROLLED, CROSS-OVER STUDY

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Background. Gastroesophageal reflux (GER) is one of the most clinical conditions in infants, bringing an estimated 7% of them to medical attention. GER can be of functional type (so called symptomatic GER) or can determine a serious disorder known as GER disease. GER is due to defective motility affecting both the gastroesophageal junction and the gastric emptying time. Thus, the lack of a safe and effective prokinetic medication comprises a considerable deficiency in therapy of infant GERD.

Symethicone represents a medical device with mechanical and physical action, indicated in all cases in which it is necessary to promote gastric emptying rate.

Aim. In a randomised, double-blind, placebo-controlled, cross-over trial we have evaluated the effect of a combination of symethicone and Bacillus Coagulans (Colinox, DMG Italia) on the gastric emptying time (GET) and relief of symptoms in infants with symptomatic GER.

Materials and methods. We enrolled 19 consecutive children, younger than a year of age, (11 female, 8 male; mean age: 5.5 months) with symptomatic GER documented by a validated Infant Gastroesophageal Reflux Questionnaire (I-GERQ-R; score ≥ 16). Symethicone and Bacillus Coagulans oral solution as well as placebo were given as drops after feeding for seven days four times daily. Each infant has been randomised to receive drug or placebo for the first seven days (phase A), then receiving the alternate intervention for the second seven days (phase B). Between the two phases, a period of seven days wash-out has been considered. GET was measured with dynamic ultrasonography (US) of the stomach and the time at which the antral area returned to the

basal value, after an identical test feeding, was assumed to be the final GET. This parameter was measured by ultrasound at the beginning and the end of each phase with a parallel symptomatic evaluation through the I-GERQ-R.

Results. The final GET (min) was significantly ($p < 0.05$) shorter when the patient received symethicone and Bacillus Coagulans (125 ± 20 min) as compared to placebo (165 ± 30 min). Furthermore a stronger improvement of the GER symptoms was detected following treatment with symethicone and Bacillus Coagulans than with placebo ($p < 0.01$) as documented by a reduction in the I-GERQ-R score (14 ± 1 with product vs 20 ± 2 with placebo). There was also a significant correlation between reduction in GET and in I-GERQ-R ($p < 0.01$; r : 0.78).

Conclusions. The combination of symethicone and Bacillus Coagulans is of clinical value in non-pharmacological approach to infants with symptomatic GER. Future studies will assess its usefulness as adjunct to drug therapy in GER disease.

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PP43

PRIMARY PREVENTION OF FOOD ALLERGY IN ITALY: PRELIMINARY RESULTS OF NATIONWIDE STUDY TO ASSESS THE KNOWLEDGE AND THE ADHERENCE TO DIET RECOMMENDATIONS FOR AT RISK INFANTS

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Background and aims. Family history of atopic disease is considered a major risk factor for food allergy (FA). Over the past 30 years, the prevalence and severity of clinical manifestations of FA in children have dramatically increased in industrialised countries. The recommendations for the primary prevention of FA have been reported jointly by the European Society for Pediatric Allergology and Clinical Immunology (ESPACI), the European Society for Paediatric Gastroenterology, Hepatology and Nutrition (ESPGHAN) and by the American Academy of Pediatrics (AAP). These recommendations include use of precocious diet strategies starting since first days of life. To assess the knowledge and the compliance to these recommendations by paediatricians working in maternity units (MUs).

Methods. Multicenter nationwide study in which a questionnaire was sent to a referent of paediatricians working in the private and MUs with more than 1000 births/year. Physicians were asked to describe their usual dietary advices for at risk infants. The paediatricians included in this study had not received any prior specific information nor training about guidelines.

Results. 22 MUs participated to the study. The allergic risk (AR) factor was not usually searched in 12/22 MUs (54%). The newborn was considered at AR in the presence of an allergic affected parent or sibling in 11/22 MUs (50%); or in the presence of biparental familiarity 4/22 MUs (18%). In the newborns with AR not receiving maternal milk, an extensively or partially hydrolysed formula was prescribed in only 5/22 MUs (23%) for the first 5–6° months of life.

Conclusions. The dietary recommendations for primary prevention of FA in at risk infants are not followed on a daily basis in our country. Our data suggest the importance to improve the information about preventive measures for FA in paediatric clinical practice.

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PP44

SELENIUM DEFICIENCY IN A PATIENTS WITH CHRONIC INTESTINAL PSEUDO-OBSTRUCTION ON TOTAL PARENTERAL NUTRITION

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Selenium (Se) is one of the essential trace elements for human beings. In the human body, Se is a component of at least 35 selenoproteins, some of which have important enzymatic functions. Se deficiency can results in systemic symptoms, including myocardial disorders, skeletal muscle disorders, erythrocytes macrocytosis, finger nail abnormalities, pseudo albinism, permanent visual loss and progressive and irreversible encephalopathy. Se deficiency can occur in patients with long term parenteral nutrition (PN) that do not receive adequate Se supplementation.

We describe a 17 years old boy with chronic intestinal pseudo-obstruction PN dependent since birth. He tolerated on and off enteral nutrition as supplement of his PN up 'till the age of 14, when recurrent episodes of obstruction imposed its suspension. At the age of 16 he started to develop profound muscle weakness with difficulties in walking, whitening of the nail beds, erythrocytes macrocytosis with normal levels of vitamin B12 and folates, and disturbances of his vision. An ophthalmic evaluation revealed a visual loss of 9/10 bilaterally that occurred in a period of one month (a previous ophthalmic evaluation performed one month before revealed normal vision).

A magnetic resonance of his brain revealed signs of cerebral atrophy more prominent in the calcarin area with normal

optic nerves. Total blood work-up showed an undetectable selenium level. We immediately started Se supplement both intravenously and orally with progressive disappearance of his symptoms and restoring of his visual capacities. Repeated blood tests showed normal Se serum levels. A repeated RM scan of his brain showed an unchanged pattern of atrophy, either because was not due to Se deficiency, or because was not the cause of his symptoms.

Despite we do not routinely add Se in our PN preparations and have been following more than 200 patients on PN since 1988 we never experienced Se deficiency in any of our patients. This could be because all our patient tolerated a minimum of enteral or oral nutrition that naturally contain Se. Our patient in the last 3 years has never been able to tolerate either enteral or oral feeds so he remained on total PN and this led to Se deficiency.

Our case show the importance of monitoring trace elements including Se in all patients on PN since supplementation could be inadequate and that Se deficiency symptoms are reversible after appropriate Se supplementation.

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PP45

DIAGNOSTIC DUODENAL BULB BIOPSY IN CHILDREN WITH CELIAC DISEASE

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Background. The gold standard of Celiac Disease (CD) diagnosis is up to now based on characteristic histological features, according to Marsh criteria modified by Oberhuber (M/O). The biopsies are usually performed in descending duodenum, 1 for each quadrant (Seattle's criteria). Only few papers focused on the role of duodenal biopsies in diagnosis of CD.

Aim. To assess the role of duodenal biopsy in a selected population of paediatric patients undergone oesophagogastroduodenoscopy (OGD) for suspected CD, because of gluten-autoantibodies positivity.

Patients and methods. We prospectively enrolled 21 paediatric patients (6 M, 15 F; age: 7.4 ± 10.6 years) with positive titres of IgA and IgG anti-tissue transglutaminase (tTG-Ab), referred to our Gastroenterology Paediatric Service. All patients underwent to OGD for histological diagnosis. During the OGD we took 4 mucosal biopsies from the duodenal