

PS-270 BREASTFEEDING SUPPORT IN SPANISH NICUS AND THE BABY-FRIENDLY HOSPITAL INITIATIVE: A NATIONAL SURVEY

C Alonso Diaz, MI Utrera- Torres, C Alba-Romero, B Flores- Anton, D Escuder-Vieco, CR Pallas- Alonso. *Neonatology, 12 de Octubre Hospital. SAMID Network, Madrid, Spain*

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Background The Baby-Friendly Hospital Initiative (BFHI) has a positive effect on breastfeeding but there are few studies examining this association in NICUs.

Aim To compare breastfeeding support in Spanish NICUs at hospitals with any BFHI stage or full accreditation (Group1) with NICUs of hospitals that haven't begun this initiative (Group2).

Methods Validated questionnaire of breastfeeding support (85 questions) were distributed to head doctors of level II and III public Spanish NICUs (N = 142), from November 2013 to March 2014.

Results The response rate was 90%. Seven NICUs were in designated Baby-friendly hospitals and 44 were in some accreditation stage. These 51 NICUs (Group1) had implemented a higher number of breastfeeding support measures with significant differences in the steps 1, 2, 4, 5 and 8 of the NICU BFHI ten steps. The most important results are in Table 1.

Abstract PS-270 Table 1

Breastfeeding support measures	Group1	Group2	p
Systematic breastfeeding training for staff	35/51(68%)	33/78(42%)	0.003
Identified person responsible for breastfeeding	37/51(72%)	33/78(42%)	0.0007
Written breastfeeding information to parents	47/51(92%)	58/78(74%)	0.01
Breastfeeding classes for parents	21/51(41%)	19/78(24%)	0.04
Mothers advised to start pumping before 6 h after birth	36/51(70%)	42/78(53%)	0.057
Early first kangaroo care	36/42(85%)	40/66(60%)	0.01
Encourage demand breastfeeding	30/51(58%)	19/78(24%)	< 0,0001
Semi-demand feeding as a transitional strategy	31/51(60%)	21/78(26%)	0.0001
Use of pacifier changed during breastfeeding transition	26/51(50%)	25/78(32%)	0.03

Conclusions Being in the BFHI way in the Maternity Unit improves the implementation of practices to promote and support breastfeeding in NICU.

PS-271 CYTOKINE CONTENT OF HUMAN MILK AND ATOPIC DERMATITIS IN BREASTFED INFANTS

¹NM Díaz-Gómez, ²E Domenech, ³M Murray, ⁴I González, ⁴J De Castro, ⁴C Vázquez, ⁵D Escuder. ¹Nursing, University of La Laguna, La Laguna, Spain; ²Paediatric, Hospital Universitario de Canarias (University of La Laguna), La Laguna, Spain; ³Paediatric, Hospital Universitario de Canarias, La Laguna, Spain; ⁴Laboratory, Hospital Universitario Nuestra Señora de Candelaria, Santa Cruz de Tenerife, Spain; ⁵Human Milk Bank, Hospital Universitario 12 de Octubre, Madrid, Spain

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Background The protective effect of breastfeeding has been linked to immunomodulating agents in human milk, including cytokines.

Objective To evaluate the possible relationship between human milk cytokine content and atopic dermatitis in breastfed term infants.

Material and methods In 114 samples of milk fed to term infants, IL-1 β , IL-2, IL-4, IL-5, IL-10, IFN γ , TGF- β 1 and TNF content were determined by flow cytometry. Breastfeeding duration and diagnosis of atopic dermatitis were telephonically recorded at 18 months.

Results Atopic dermatitis appeared in 24 infants (21%). No allergies were recorded in 89 (78%). We found no significant differences in maternal age (34.8 \pm 2.7 vs 34.7 \pm 3.6 years), maternal allergies (54% vs 46%), birth-weight (3288 \pm 512 vs 3270 \pm 586 g) or breastfeeding duration (5.7 \pm 1.2 vs 5.6 \pm 1.4 months). Cytokines studied were detected in the following samples of mature milk: IL-1 β 25%, IL-2 42%, IL-4 23%, IL-5 17%, IL-10 28%, IFN γ 25%, TGF- β 1 16% and TNF 18%. In milk fed to infants with atopic dermatitis, mean concentration of TGF- β 1 was higher (428 \pm 221 vs 282 \pm 222 pg/ml), while that of IL-1 β (2.2 \pm 1.1 vs 3.6 \pm 7.5 pg/ml), IL-2 (6.7 \pm 3.3 vs 9.6 \pm 6.8 pg/ml), IL-4 (2.0 \pm 0.7 vs 4.0 \pm 5.2 pg/ml), IL-5 (0.6 \pm 0.3 vs 1.2 \pm 0.9 pg/ml), IL-10 (1.8 \pm 0.7 vs 3.8 \pm 3.1 pg/ml), IFN γ (2.9 \pm 4.2 vs 5.9 \pm 9.1 pg/ml) and TNF (2.2 \pm 0.5 vs 5.4 \pm 7.1 pg/ml) was lower, although differences were only significant for IL-10 (p = 0.02).

Conclusions The results suggest a possible relationship between human milk IL-10 content and atopic dermatitis in infants. However, wide variability in cytokine concentration means the sample size must be increased to draw definitive conclusions.

PS-272 EARLY NUTRITION AND POSTNATAL GROWTH AND THE RISK OF RETINOPATHY OF PREMATURITY (ROP) IN VERY PRETERM INFANTS (VPI)

M Izquierdo, M Minguez, A Martinez Monseny, I Iglesias-Platas. *Neonatology, Hospital Sant Joan de Deu, Esplugues Llobregat, Spain*

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Background Retinopathy of prematurity (ROP) is the main cause of visual impairment in very preterm infants (VPI). Several factors contribute to the development of ROP; recently, the relationship between severe grades of ROP and poor early weight gain and nutrition has been investigated. **Aim:** Evaluation of nutritional supply during the first week of life and in-hospital postnatal growth of very preterm children with and without ROP.

Methods Retrospective study of clinical data from a cohort of VPI (\leq 32 GA) screened for ROP from 2002–2013 in a tertiary NICU. Collection of information regarding birth weight, postnatal growth, nutritional data and clinical course. ROP was classified according to international guidelines.

Results Of 473 VPI screened, 165 (34,9%) patients developed some degree of ROP; 30 needed treatment with laser therapy. Babies with any degree of ROP and those with severe ROP were of lower gestational age and had a more complicated clinical course. Regarding growth, there were no differences in initial weight loss and recovery or enteral nutrition during the first week. In spite of higher parenteral nutritional supply (1st week), babies who developed ROP had a lower relative daily weight gain between birth and 28 days of life (dol) and deviated from expected intrauterine growth significantly more. This pattern persisted at 36 weeks and at discharge.

Conclusions VPI who develop ROP display stunted growth when compared to non-ROP counterparts. This is in spite of a higher parenteral nutritional supply during the first week of life. Further analysis of nutritional data is under course.

PS-273 THE RELATIONSHIP BETWEEN INFANT BIRTH WEIGHT AND NEONATAL BODY COMPOSITION

¹D Anne, ²A O'Higgins, ²C O'Connor, ³L Mullaney, ³AM Bennett, ¹M Sheridan-Pereira, ²MJ Turner. ¹Newborn Medicine, Coombe Women and Infants University Hospital, Dublin, Ireland; ²UCD Centre for Human Reproduction, Coombe Women and Infants University Hospital, Dublin, Ireland; ³Department Human Nutrition Dublin Institute of Technology, Coombe Women and Infants University Hospital, Dublin, Ireland

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Background and aims Birth weight has been used as a marker of adiposity in neonates. Ponderal index incorporates infant length and is used in place of body mass index (BMI) in infants. Skin-fold thickness and anthropometric measurements can be unreliable in the first few days of life. Infant body composition can be measured using air displacement plethysmography. Our aim was to explore the relationship between birth weight and neonatal body composition.

Methods Infant birth weight and anthropometry were recorded. Infant body composition was measured within 3 days of delivery using air displacement plethysmography (PEA POD, Cosmed, Rome, Italy). Term infants born between 37–42 weeks were included in analysis. Data were analysed using SPSS Statistics 19.

Results Measurements were performed on 467 (227 (49%) male and 240 (51%) female) term neonates (37–42 weeks) within the first 72 h of life. Mean birth weight and percentage body fat was 3.58 kg and 9.7% in males and 3.42 kg and 11.3% in females. Infants in the top quartiles of birth weight had higher body fat percentage. A multiple regression was run to predict body fat percentage from birth weight, gestation and gender. 35.7% of variance could be explained by these variables.

Conclusions Birth weight, gestation and gender only have a moderate effect size on infant body fat percentage at birth, therefore birth weight is not a reliable marker of infant adiposity.

PS-274 LACK OF ASSOCIATION BETWEEN BRONCHOPULMONARY DYSPLASIA AND GASTRO-ESOPHAGEAL REFLUX AT ESOPHAGEAL PH-IMPEDIMENTOMETRY: A PROSPECTIVE STUDY IN SYMPTOMATIC PRETERM INFANTS

¹S Nobile, ¹C Noviello, ¹G Cobellis, ¹VP Carnielli. *Maternal and Child Department, "G. Salesi" Children's Hospital, Ancona, Italy*

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Background and aims The role of GER in the pathogenesis and recovery from BPD in preterm infants is controversial; some Authors suggested symptomatic GER treatment for BPD infants. We tested the hypothesis that BPD predisposes to GER (due to increased respiratory effort, coughing and crying).

Methods We prospectively studied 44 infants born 2-analysis and t-test/Mann-Whitney test were performed to look for differences among the two groups; P value of

Results Demographic and clinical characteristics between BPD and controls were similar: GA 201 vs 202 days, male sex 66.7 vs 46.9%, age at study 51 vs 39 days, orogastric tube feeding 83.3% vs 75%, caffeine administration 33.3% vs 50% (all P > 0.05). The analysis of 1056 h of Ph-MII tracings showed no significant difference between BPD and controls regarding the median number of these parameters: acid (3 vs 2), weakly acid (11 vs 16), non-acid (0 vs 0), gas (7 vs 10) refluxes, ph-only

events (21 vs 9), GER >5 min (1.5 vs 3.5); longest GER (11.2 vs 16.5 min), lower ph (1.5 vs 2.1), acid exposure (ph 0.05).

Conclusions In our experience, BPD was not associated with higher reflux parameters as measured by 24 h Ph-MII examinations among preterm infants. Symptomatic GER treatment with drugs should be reserved for confirmed pathologic Ph-MII tests in order to avoid adverse events.

PS-275 CAN HIGH ENTERAL FEEDING VOLUMES PREVENT POSTNATAL GROWTH RESTRICTION IN VERY PRETERM INFANTS?

¹C Klingenberg, ²FK Muraas, ²CE Isaksen, ³PI Kaarensen. ¹Paediatric Department, University Hospital of North Norway, Tromsø, Norway; ²Department of Paediatrics Faculty of Health Science, University of Tromsø, Tromsø, Norway; ³Department of Paediatrics, University Hospital of North Norway, Tromsø, Norway

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Background and aims Postnatal growth restriction is common among very preterm infants (VPI). Optimising enteral feeding is of critical importance to improve neurodevelopmental outcome. We assessed the effect of a feeding regimen with a high enteral volume intake.

Design Retrospective population based study of all VPI (GA < 30 weeks) discharged from a single NICU between 2005–2010. Baseline clinical data, enteral volume intake and postnatal growth data were collected. Weight at birth/discharge and at 1 year of corrected age was converted to standard deviation (SD; Z) scores.

Results 99 infants were included. Infants who died (15/99; 15%) had lower mean GA than infants who survived to discharge (24.9 weeks vs. 27.3 weeks). For all infants enteral nutrition was commenced within first 48 h. Two infants developed surgical NEC, both survived. Daily enteral volume of fortified breast milk was 180–200 ml/kg from 3 weeks of age and until self-regulation. Seven infants were transferred to other units < 34 weeks. Among the other 77 infants the mean (SD) Z-scores for weight were; at birth -0.37 (-0.27), at discharge -0.42 (-0.53) and at 1 year corrected age -0.46 (-0.60). The prevalence of SGA (< 10 centile) at birth (13/77; 17%) was similar to SGA prevalence at discharge (14/77; 18%).

Conclusions The rate of postnatal growth restriction was lower than previously reported in similar patient populations. We believe a high enteral volume intake is a safe method to increase energy and protein delivery and thus improve the nutritional status of very preterm infants.

Oxygen Saturation and Surfactant

PS-276 PRETERM INFANTS EXHIBIT INCREASED PLATELET ADHESION TO VWF UNDER CONDITIONS OF ARTERIAL SHEAR

¹N Quinn, ²J Cowman, ¹S Geoghegan, ¹B Ferguson, ¹T Sharpe, ²D Kenny, ¹EJ Molloy. ¹Neonatology, National Maternity Hospital, Dublin, Ireland; ²Molecular and Cellular Therapeutics, Royal College Surgeons Ireland, Dublin, Ireland

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Background/aims Preterm infants have higher rates of haemorrhagic diathesis and respiratory complications than terms and adults. Platelets play a key role in haemostasis but detailed