Results Twenty two infants met inclusion criteria. Over 90 measurements were obtained. TPN days ranged from 5 to 39 days. Seventeen infants (77%) received TPN for less than 21 days of TPN. Their mean percent of body fat was 10.9%, significantly lower than the 22% measured in those babies on ≥ 21 days on TPN.

Conclusion In our population of VLBW, those who received TPN for longer than 3 weeks have a significant increase in body fat composition. This could result in increased risk for metabolic syndrome in early adulthood in this population. Our eagerness to avoid postnatal malnutrition could lead to an iatrogenic neonatal origin of adult disease. We are currently analyzing potential confounders and the TPN composition associated with these findings.

1401 COMPUTER AIDED NUTRITION - EFFECTS ON GROWTH IN PRETERM INFANTS GA< 32 WEEKS

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^{1,2}D Wackernagel, ^{1,3}A Brückner, ⁴F Ahlsson. ¹Department of Paediatrics, Mälarsjukhuset, Eskilstuna; ²Astrid Lindgren's Children Hospital, Karolinska University and Karolinska Institutet, Stockholm, Sweden; ³Department of Neonatology and Pediatric Intensive Care, Asklepios Childrenshospital St. Augustin, St. Augustin, Germany; ⁴Department of Women's and Children's Health, Uppsala University, Uppsala, Sweden

Background and Aims Preterm infants (PI) are often discharged from the NICU with suboptimal growth. It seems obvious that a commercial nutrition calculating program (NCP) could help to compute macro- and micro nutrients more easily. The aim of this intervention study was to determine whether a NCP could optimise the growth of PI.

Methods In 78 PI (GA $\leq$ 32+0) cases grouped in 35 PI before (CG) and 43 after (IG) the implementation of the NCP Nutrium weight, length and head circumference at birth, day 28, GA 36 and discharge were compared.

Additionally daily intake of total fluid, energy, carbohydrate (CH), aminoacids (AA), fatty acids (FA), Na, K, Ca, Mg, P, Fe, Zn and vitamins A, E and D in postnatal weeks 1–7 were recorded and compared.

Results

AA, CH, Ca, P, Zn intake was significantly increased. FA and total energy was marginally increased in week 1. Vitamin A, E and D intake was optimised in IG and tended to be overdosed in CG (Recommendations based on Tsang/ESPGHAN).

Conclusion By using the NCP growth overall and especially length-growth was significantly optimised in PI (GA $\leq$ 32+0) through optimising intake of CH, AA, Ca, P, Zn. In the IG it was more likely that Vitamins were dosed correctly.

1402 CHANGES ON PARENTERAL NUTRITION FOR VERY PRETERM BABIES DURING THE FIRST WEEK AND THEIR EFFECT ON GROWTH DURING ADMISSION

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¹I Iglesias-Platas, ¹M Izquierdo-Renau, ¹R del Río, ²P González-Carretero, ³N Pociello, ¹X Krauel. ¹Neonatal Unit, Hospital Sant Joan de Déu, Barcelona; ²Neonatal

Unit, Hospital Nuestra Señora de la Candelaria, Santa Cruz de Tenerife; ³Neonatal Unit, Hospital Arnau de Vilanova, Lleida, Spain

Current nutritional recommendations for very low birthweight infants (VLBWI) focus on avoiding catabolism and supporting growth. We aimed to assess the results of a change in the parenteral nutrition protocol for VLBWI in our unit on the nutritional support received by these patients during the first week of life and the growth rates achieved.

Patients Infants < 1500g admitted to our unit one year before and one year after the change (periods I and II).

Method Revision of clinical charts and retrieval of data regarding nutritional intakes, growth and clinical outcomes.

Results 136 infants were studied (76 on period A and 60 on period B). There were no significant differences in baseline characteristics: gestational age (28.8 $\pm$ 2.1 vs 29.0 $\pm$ 2.0 weeks), birthweight (1.103 $\pm$ 222 vs 1.091 $\pm$ 214 g), gender distribution, perinatal characteristics and initial severity of illness. Parenteral nutrient supply was consistently higher throughout the first week in VLBWI in period II. There were no changes in enteral or total fluid supply.

The percentage of body weight loss was significantly lower in period B (11.3 $\pm$ 4.9% vs 7.3 $\pm$ 5.2%) and the recovery of birth weight was quicker (2 weeks vs 10 days, $p<0.0001$). The daily increase in weight was also significantly higher in the group with optimized nutrition, both from birth to day 14 of life and from day 14 to discharge.

Conclusions Extrauterine growth restriction is a prevalent complication of very preterm birth. Optimization of parenteral nutritional strategies in our neonatal unit had a positive effect in growth of this population during admission.

1403 DOES AMNIOTICFLUID PLAY A NUTRITIVE ROLE BEFORE BIRTH? A RETROSPECTIVE ANALYSIS OF NEWBORNINFANTS WITH UPPER AND LOWER GASTROINTESTINAL ATRESIA

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¹H Zillhardt, ²J Korczyk, ²A Heydweiller, ^{3,4}H Reutter, ¹A Müller, ¹P Bartmann, ¹S Bagci. ¹Department of Neonatology, Children's Hospital; ²Department of Pediatric Surgery, University of Bonn; ³Department of Neonatology, Children's Hospital, University of Bonn; ⁴Institute of Human Genetics, University of Bonn, Bonn, Germany

Introduction During pregnancy the fetus swallows and absorbs an increasing amount of amniotic fluid. It remains unclear whether a lack of absorption of amniotic fluid may result in low birth weight (BW). There are a few studies evaluating the significance of amniotic fluid on fetal growth and the their results are controversial. This study was carried out to evaluate the intrauterine nutritive role of amniotic fluid on fetal growth.

Method Neonates with atresia of gastrointestinal tract (GIT) during a period of 12 years were studied retrospectively. 29 from 100 patients were excluded from the statistical analysis because of VATER (VACTERL) association (8), chromosomal abnormalities (11) and congenital heart anomalies (10). BW and birth length (BL)

Abstract 1401 Table 1 Postnatal growth CG vs IG

	group	Birth (mean $\pm$ SD)	p	Day 28 (mean $\pm$ SD)	p	GA36 (mean $\pm$ SD)	p	Discharge (mean $\pm$ SD)	p
Weight-SDS	CG	-1.4 $\pm$ 1.7	n.s.	-2.6 $\pm$ 1.7	0.03	-2.3 $\pm$ 1.5	<0.05	-1.9 $\pm$ 1.1	<0.05
	IG	-1.0 $\pm$ 1.5		-1.9 $\pm$ 1.4		-1.4 $\pm$ 1.2		-1.0 $\pm$ 1.1	
Length-SDS	CG	-1.8 $\pm$ 2.0	n.s.	-3.0 $\pm$ 1.6	0.02	-3.2 $\pm$ 1.8	<0.05	-2.7 $\pm$ 1.8	<0.05
	IG	-1.2 $\pm$ 1.9		-2.0 $\pm$ 1.9		-1.7 $\pm$ 1.7		-1.2 $\pm$ 1.3	
Headcircum.-SDS	CG	-0.4 $\pm$ 1.3	n.s.	-1.5 $\pm$ 1.1	0.04	-1.1 $\pm$ 0.9	0.05	-0.4 $\pm$ 0.8	0.03
	IG	-0.5 $\pm$ 1.1		-0.9 $\pm$ 1.2		-0.6 $\pm$ 1.2		+0.1 $\pm$ 1.0	

from 71 infants (esophageal atresia (20), duodenal atresia (16), jejunal atresia (7), ileal atresia (11) and anal atresia (17) compared between infants with atresia of upper GIT (AUGIT; esophagus, duodenum) and atresia of lower GIT (ALGIT; jejunum, ileum, colon and anal atresia).

Results There is a significant difference in BW between UGIA and LGIA: BW below the 10th percentile was observed in 16 of 36 patients (44%) with UGIA and only 6 of 35 patients (17%) with LGIA ($p=0.012$, UGIA vs. LGIA). There is no statistical significant difference for BL between both groups ($p=0.735$).

Conclusion Newborn infants with UGIA had lower birth weight than newborn infants with LGIA. This would be in agreement with the hypothesis that absence or decrease of absorption of amniotic fluid in the fetus leads to lower birth weight.

1404 PROSPECTS OF PROBIOTIC BACTERIAL LECTINS IN MEDICINE

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M Lakhtin, V Lakhtin, S Afanasiev, V Aleshkin, A Aleshkin. *Medical Biotechnology, G.N. Gabrichevsky Research Institute for Epidemiology & Microbiology, Moscow, Russia*

Background Probiotic bacterial lectins (PBL) isolated by us from industrial strains of human origin are important regulators of microbiocenoses.

The Aim is to evaluate potential of PBL in medicine.

Results The data obtained indicate that preparations of PBL imitate general functions of probiotics, increase or create new useful activities. In biotopes PBL act as intrinsic tool of microbial selection, factor of supporting probiotic compartment. PBL can be used for screening probiotic microbes, sensitive and resistant clinical strains, and also for monitoring balance of biocenosis in directions "Microbes - Microbes" and "Microbes - Organism". Application of PBL (combinations of L of lactobacilli and bifidobacteria [LL and LB] as the model functional imitator of biotope probiotic compartment) is multidirected and use antipathogen cascade multisynnergism of PBL in time and in space. Results indicate that PBL are able to destruct biofilms of pathogen combinations "*Staphylococcus* > or < *Candida*" (synergistic contribution: LL > or < LB). LL+LB possess advantages of probiotic action in cases of biotopes where bifidobacteria or lactobacilli are currently absent. It seems, being delivered into organism, PBL will complete cell system "*Lactobacillus* + *Bifidobacterium* + Other probiotic-like microbes" and increase synbiotic biotope ingredients. The data on synergistic action between PBL and antibiotics allow using PBL in cases of non-effectiveness of antibiotics or for decreasing antibiotic doses.

Conclusions Results indicate prospects of PBL in supporting probiotic and synbiotic systems of organism for example during chemotherapy and radiotherapy of tumors, or as ingredients of anti-infectives against eukaryotic pathogens (microfungi and protozoans).

1405 SIGNIFICANT WEIGHT LOSS IN BREASTFED INFANTS IN THE EARLY POSTNATAL LIFE

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A Mitra, E Parish, AY Sohn, R Chetan. *Paediatrics, Southend University Hospitals NHS Foundation Trust, Westcliff-on-Sea, UK*

Background and Aims Breastfed newborn infants can develop significant weight loss in early postnatal period associated with hypernatremia. In our hospital, breastfeeding support is provided to mothers both in hospital and community. This breastfeeding care pathway is based on the UNICEF breastfeeding policy. In spite of this continuous effort, several newborn infants with significant weight loss need hospital re-admission in the early postnatal period.

Methods A retrospective audit was performed over 6 months (Jan 2011– June 2011) period. Management of all breastfed infants admitted with weight loss (>7% of birth weight) with or without other clinical symptoms of dehydration were reviewed. Information was collected from infant clinical notes, discharge summaries, hospital pathology reporting system and maternal notes.

Results 1908 infants were born during this period, 33 infants (1.73%) required readmissions. No risk factor was identified in 3 infants, 30 infants had one or more risk factors, commonest being caesarean section delivery (61%) followed by infants born to 'first time mother's (33%). 72% of the infants developed jaundice. Majority of the infants (59%) were managed with breast feeding support only whereas 15% needed intravenous fluid support. Most infants (69.6%) were discharged within 48 hrs of admission. Half of the infants developing hypernatremia had comparatively mild weight loss ($\leq 10\%$ of birth weight).

Conclusions Weight loss and Hypernatremia continues to be a problem in neonates particularly in 'at risk' infants. Most of these infants responded well to enteral feeding only. Degree of hypernatremia was not always proportion to the degree of weight loss.

1406 EFFECT OF STORAGE CONTAINER ON BACTERICIDAL ACTIVITY OF HUMAN MILK

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¹S Takci, ²D Gulmez, ¹S Yigit, ²O Dogan, ²G Hascelik. *¹Hacettepe University Ihsan Dogramaci Childrens' Hospital; ²Hacettepe University School of Medicine, Department of Clinical Microbiology, Ankara, Turkey*

Aim Storage of human milk in refrigerator has been recommended for short term storage. It has been shown that some nutritional, immunological, bioactive properties and bactericidal activity of human milk can alter by refrigeration. Pyrex bottles and polyethylene bags are the two common containers in the setting of storage of human milk. The aim of this study is to compare the effect of the type of storage container on bactericidal activity of human milk at different duration of refrigeration.

Methods Forty four samples of human milk were collected from 22 lactating mother. Two samples of human milk were obtained by manual expression from each mother. One was collected directly into sterile pyrex bottles and the other into polyethylene bags. Each sample was divided into three aliquots, one was processed immediately and remaining two were kept at 4°C for 24 and 48 hours. Bactericidal activity of each sample was studied. A strain of E.coli ATCC 25922 was used to determine the bactericidal effect of human milk.

Results Bactericidal activity was significantly reduced in milk samples kept in polyethylene bags compared to the samples kept in pyrex bottles when milk samples stored at 4°C for 24 and 48 hours ($p<0.05$).

Conclusion Short term storage of human milk in pyrex bottles is more appropriate than polyethylene bags for prevention of decrease in bactericidal activity.

1407 CONTINUOUS GLUCOSE MONITORING IN TERM AND NEAR-TERM INFANTS AT RISK OF HYPOGLYCAEMIA - A PILOT STUDY

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^{1,2}D Wackernagel, ²M Dube, ¹M Blennow, ^{2,3}Y Tindberg. *¹Astrid Lindgren's Children Hospital, Karolinska University and Karolinska Institutet, Stockholm; ²Department of Paediatrics, Mälarsjukhuset, Eskilstuna; ³Department of Women's and Children's Health, Uppsala University, Uppsala, Sweden*

Background and Aims Postnatal hypoglycaemia is known to increase the risk of adverse neurological outcome in infants at risk.