Background and Aims Early administration of parenteral amino acids (AA) has been shown to limit catabolism and improve growth in extremely low birth weight (ELBW) infants. This study aimed to evaluate an earlier, more aggressive administration of amino acids, was safe and well-tolerated, without clinically significant differences in metabolic acidosis or blood urea nitrogen (BUN).

Methods The 46 ventilator-dependent preterm infants less than 1000g were retrospectively enrolled. The Early group received ≥ 3 g/kg/d amino acids, while the Late group did not received a minimum of ≥ 3 g/kg/d parenteral AA at ≤ 3 days of age.

Results An earlier, more aggressive administration of amino acids (≥ 3 g/kg/d amino acids at ≤ 3 days of age), was safe and well-tolerated, without clinically significant differences in metabolic acidosis or BUN. There is no correlation between amino acid intake and BUN in ELBW infants within 7 days of life. Using multiple regression analysis, gestational age showed a significant negative correlation with BUN concentrations in ELBW infants within 7 days of life.

Conclusions High BUN in the early postnatal period might be related not only to amino acid oxidation and the infant’s immaturity but also additional combined factors other than amino acid intolerance. Future studies are required to determine whether early and aggressive administration of amino acids is enough for optimal growth and neurodevelopmental outcome of ELBW infants.

Objective To determine regional prevalence of breastfeeding very premature infants and identify factors influencing it’s initiation at birth and continuation at discharge.

Study Design It was a prospective observational study in preterm <3 weeks of gestational age (GA) from January to December 2010 in Poitou-Charentes. Data were collected from infant report and using a questionnaire sent at home. The variables were analyzed with the Chi² test and Student’s t test at p<0.05 and binary logistic regression for predictive factors.

Results Questionnaires collected concerns 112/150 infants (74.7%) and 95 parents (17 multiple pregnancy). At birth, 65.2% (n=73) were breastfed. Factors significantly associated with breastfeeding at birth were: maternal body mass index (BMI), employed mothers, mothers that have been breastfed (MoBr) and daycare other than grandparents. In a multivariate regression model, BMI, daycare by grandparents and MoBr were independent predictive factors of breastfeeding at birth or discharge (OR [IC 95%]: 1.18 [1.01–1.38], 0.24 [0.08–0.74] and 5.8 [1.49–22.56] respectively. At discharge, 46.4% (n=52) of infants were breastfed. Factors significantly associated with breastfeeding at discharge were: intrapartum information about breastfeeding employed mothers, non smoker mothers, low paternal BMI, high educational level of fathers, daycare by grandparents, and MoBr. The last 4 factors were independent predictors of breastfeeding at discharge in a multivariate binary logistic model with OR [IC 95%]: 0.75 [0.62–0.9], 5.35 [1.24–23.1], 0.18 [0.03–0.96] and 7.5 [1.35–41.8] respectively.

Conclusion Socio-economic, educational and family conditions influence differently breastfeeding initiation and continuation. This diagnosis is precious to breastfeeding promotion programs.

Objective Does enteral protein intake affect renal glomerular and tubular functions in very low birth weight infants?

Methods Preterm infants were randomized into three groups regarding their daily protein intakes as standard fortification (3 g/kg/d) groups. Serum urea, creatinin (Cr), Cystatin C (Cys-C) and urinary β2 microglobulin (β2M) were measured in three groups regarding their daily protein intakes as standard fortification (3.6 g/kg/d) groups.

Results Serum urea, Cr, Cys-C and urinary β2M levels were similar in all three groups both on discharge and postnatal day 14 (p>0.05). Mean Cr and β2M levels were significantly lower on discharge (p<0.05) while Cys-C levels did not differ in time (p>0.05).

Conclusion Enteral protein intake up to 3.6 g/kg/d did not alter the tubular and glomerular functions in very preterm infants. However, the long term renal effects in these infants maintained on a high protein intake remain unknown and should be addressed in future studies.