368

GROWTH OF INFANT FED STARTER FORMULA CONTAINING PREBIOTICS OR SYMBIOTIC

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Objective: To assess growth of infants fed starter formula supplemented with either prebiotics or symbiotic. In addition, gut microbiota was studied.

Methods: Healthy, full term newborns (n= 240) were enrolled before the 14th day of their life and randomly assigned between 3 exclusively formula fed groups: starter IF, starter IF + prebiotics (CMOS+GOS), starter IF + prebiotics (CMOS+GOS) and probiotics (BL999 + LPR). Growth was assessed by body weight gain during 4 months. Gut microbiota profile was examined by measuring fecal counts in Bifidobacteria, Lactobacilli, Enterobacteria, Clostridium at 2 months of age. Incidence of morbidity was appraised.

Results: Non inferiority in growth was established between the two experimental groups and the control at the end of the 4 months intervention period. 90% confidence intervals for the effects of prebiotics versus control and symbiotic versus control were (-1.24, 3.17) and (-2.35, 2.02) respectively. Higher levels of fecal Bifidobacteria were observed in the experimental groups; this difference being significant between the symbiotic and control groups (8.8 +/-1.7 versus 9.87+/-1.2 p< 0.05). Furthermore, Clostridium levels were lower in both experimental vs control groups. No statistically significant differences of adverse events were detected between groups, except for a higher incidence of colics in the prebiotic and, to a lesser degree, in the symbiotic group vs control.

Conclusion: Growth of newborns receiving IF containing prebiotics or symbiotic was non inferior to the growth observed in controls and within the limits defined by WHO growth reference curves. A bifidogenic effect due to symbiotic formulation was demonstrated.

369

PARENTERAL AMINOACIDS ADMINISTRATION IN PRETERM NEWBORNS OF BIRTH WEIGHT < 1250 G: POSSIBLE ADVANTAGES OF HIGHER INTAKES

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Background and aims: Osteopenia is an emerging problem in Neonatology. We studied if higher intakes of aminoacids (AA) provide bone growth advantages in preterm newborns without AA intolerance.

Methods: Patients with birth weight (BW) < 1250 g were randomly assigned from birth to receive lower (maximum 2,5 g/Kg/day, group L) or higher (maximum 4 g/Kg/day, group H) parenteral AA with the same non-proteic-energy and mineral intakes. By means of Quantitative Ultrasound (DBM-Sonic-BP Igea, Italy), to assess bone quality, we measured the second metacarpus Bone Trasmission Time (mcBTT; μs) at birth, days 7, 14, 21, and 36 weeks of gestational age (GA) together with blood emogasanalysis, urea, calcium, phosphorus, creatinine, and urine output. Data are expressed as mean±SD; statistical significance analyzed by SPSS 13.0 (p< 0.05).

Results: We enrolled 47 vs 46 patients (L vs H groups). No differences for basal clinical, bone, blood parameters and BW (887,23±219.96 vs 917,37±190,30 g) were detected. Urea on day 7 was higher in group H (10,17±5,39 vs 12,76±4,84 mmol/l; p=0.04); no differences were found between groups for bone (days 7, 14, 21) and blood parameters at any other time. Nonetheless we found a positive correlation between mcBTT and blood phosphorus on day 21 (r=0,42; p=0,001); higher AA intakes in the first 3 weeks of life resulted in better mcBTT values at 36 weeks GA (0,40±0,04 μs vs 0,43±0,05 μs; p=0,04).

Conclusion: Early higher AA intakes could improve bone growth without short term AA intolerance. Further studies are required to evaluate long term bone growth.