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GROWTH AND FAT MASS IN PRETERM INFANTS FED A PROTEIN-ENRICHED POSTDISCHARGE FORMULA (PDF): A RANDOMIZED CONTROLLED TRIAL

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Background and aims: Male infants with BW< 1250 g benefit from PDF. Fetal growth seems to influence growth recovery whereas fat restoration occurs irrespective of BW. To evaluate whether being fed a PDF determines a growth benefit in two subgroups of infants.

Methods: 123 preterm infants born AGA (BW=1193.4± 230 g; GA=29±1.9 wks) and 84 born SGA (BW=1127± 262g; GA=31.3±1.9 wks) were randomized at term corrected age (CA) in G1: 59 AGA fed PDF (2.9 g/100 kcal), G2: 64 AGA fed term formula (TF) (2.1 g/100 kcal), G3: 41 SGA fed PDF, G4: 43 SGA fed TF. From 6 months infants were fed a follow on formula and weaned according to ESPGHAN recommendations. Growth and body composition were assessed by an air displacement plethysmography system at term, 1, 3, 5, 6, 12 months. ANOVA, regression analysis.

Results: G1 and G3 protein intakes were higher than those of G2 ($p< 0.005$) and G4($p< 0.05$), respectively, whereas weight, length and fat mass were similar at each study point. G1 mean HC (cm) was bigger than that of G2 at six months (43.5± 1.9 vs 42.6±1.6, $p=0.03$) whereas at 12 months no difference was found (45.4±1.6 vs 46±1.6). In AGA infants being fed a PDF formula, being male, not having a postnatal growth retardation at term correlated with bigger HC at six months [($p< 0.001$), unstandardized B coefficient (SE) 0.9 (0.36); 1.2 (0.36); 1.2 (0.37), respectively].

Conclusions: Male AGA without postnatal growth retardation at term but not SGA infants appear to benefit from being fed PDF.