

NSA Concurrent Oral Session 4: Lipids

Visual development of preterm infants fed high dose docosahexaenoic acid

LG Smithers¹, AJ McPhee², RA Gibson¹, M Makrides¹

¹Child Health Research Institute, University of Adelaide Department of Paediatrics, Women's and Children's Hospital, Adelaide SA 5006

²Neonatal Medicine, Women's and Children's Hospital, Adelaide SA 5006

Background - Preterm infants fed breast milk or docosahexaenoic acid (DHA) supplemented formula have better visual responses than infants fed formula with no DHA.

Objective - To determine the optimal intake of DHA for infant visual development of preterm infants.

Design - Infants born at <33 weeks gestation were enrolled in a double-blind randomised controlled trial of DHA supplementation. Enrolments were stratified for gender and birth weight (<1250 g and ≥1250 g). Mothers providing breast milk consumed 3 g of oil in capsules containing either soy oil (no DHA), or tuna oil (900mg DHA) that resulted in milk with either a standard (0.3%) or high dose (1.0%) of DHA. Infants requiring supplemental formula feeds were fed a formula with a matching fatty acid composition. Infants were fed the test diets from enrolment until their due date. VEP acuity and latency were assessed at 2 and 4 months corrected age (CA).

Outcomes - Of 143 infants enrolled, 139 were invited to attend visual assessment appointments (4 withdrawals and 1 infant died). Infants ranged in gestational age from 24 to 32 weeks at birth, 658 g-2620 g birth weight, and 66 were born <1250 g. At 2 months CA, 66 female and 58 male infants attended follow up appointments, and 68 female and 58 male infants at 4 months CA. VEP latency and acuity was found to be age dependent and there were small effects of gender and diet.