

366

FOLLOW-UP 25OHD LEVELS IN PRETERM VERY LOW BIRTH WEIGHT (VLBW) INFANTS

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Background and aim: Vitamin D plays an important role in skeletal and non-skeletal health. In preterm VLBW infants, we previously reported a high prevalence (about 80%) of vitamin D insufficiency, defined as a serum 25-hydroxyvitamin D (25OHD) < 50 nmol/L. The aim of this study was to re-assess 25OHD status in those infants who had a level < 50nmol/l, following augmented vitamin D intake.

Methods: Preterm or VLBW infants (n=109), who had an initial serum 25OHD level < 50 nmol/L during NICU admission, were re-assessed after advice to ensure vitamin D₃ intakes of ≥400IU daily from feeds and supplements.

Results: Infants were re-assessed at mean day of life 170 (median 119, range 15-711), or mean post-conceptual age (PCA) 53.6wks (median 47.6, range 30.7-127.6). Using a recent classification of vitamin D status[i], we noted that 26 (24%) remained < 50 nmol/L (insufficient); 83 (76%) were ≥50 nmol/L (sufficient); and 40 (37%) were ≥80nmol/L (desirable). There was a significant correlation between follow-up 25OHD and PCA (r=0.27;p=0.004), and day of life (r=0.24;p=0.013), but not with ethnicity, gender, gestation at birth, birth weight, or initial 25OHD. A forward multiple regression model identified PCA as the sole predictor of follow-up 25OHD (r²=0.08; p=0.004).

Conclusions: About 80% of preterm VLBW infants have insufficient 25OHD levels during early postnatal life; about 25% remain insufficient at follow-up assessment. A higher level of supplementation is warranted in those infants.

[i] Misra et al. Vitamin D deficiency in children and its management: review of current knowledge and recommendations. *Pediatrics* 2008;122:398-417.

367

INFLUENCE OF COW'S MILK INTAKE DURING THE COMPLEMENTARY FEEDING PERIOD ON INFANTS' INFECTIOUS AND ALLERGIC MORBIDITY

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It has been suggested that cow's milk intake during the complementary feeding period could negatively affect the health status of infants and toddlers. The objective of this study was to evaluate the possible influence of complementary diet containing whole cow's milk on infants' infectious and allergic morbidity.

Methods: The health status of 1158 term infants aged from 10 to 12 months has been evaluated in a cross-sectional study. 612 of them (53%) received whole cow's milk as a complementary feeding product (cow's milk group) and 546 (47%) were not (control group). During the study period serial physical assessments, medical record reviews have been performed and special questionnaire has been used. The incidences of intestinal, respiratory tract infections and any allergic manifestations were compared between the groups.

Results: The groups were not different in terms of age and growth parameters at evaluation. The average period of breastfeeding in infants from the control group was significantly longer than in infants who received whole cow's milk (6,4 ± 3,3 months vs. 4,98 ± 2,58 months; p < 0,0001). In comparison with the control group infants fed with cow's milk had reliably higher incidences of intestinal (adjusted for breastfeeding duration OR 2,021; 95% CI 1,56-2,62) and respiratory infections (adjusted OR 1,43; 95% CI 1,12-1,84) as well as the higher risk for any allergic reactions (adjusted OR 1,89; 95% CI 1,42-2,51).

Conclusions: Our data suggest that feeding with whole cow's milk during the first year of life could increase infants' infectious and allergic morbidity.