HIGH ENTERAL VOLUME INTAKE AND EXTRA-UTERINE GROWTH RESTRICTION IN VERY PRETERM INFANTS

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Background and aims: Extra-uterine growth restriction is common among very preterm infants (VPI). Optimising enteral feeding is of critical importance to improve neurodevelopmental outcome. We aimed to assess the effect of a feeding regimen with a high enteral volume intake.

Methods: Retrospective study of all inborn VPI (GA < 30 weeks) discharged between 2005 and 2009. Baseline clinical data and data on enteral volume intake and postnatal growth were collected. Weight was converted to standard deviation (SD; z) scores using Norwegian reference standards.

Results: Eighty-six infants were included. Infants who died (14/86; 16%) had lower GA (mean (SD) 24.9 (1.5) vs. 27.4 (1.4)) than infants surviving to discharge (72/86; 84%). For all infants enteral nutrition was commenced within first 48 hours. Two infants developed surgical NEC, both survived. Daily enteral volume was 180-200 ml/kg from 3 weeks of age and onwards until self-regulation of milk intake. Fortified breast milk was used exclusively. Fortification was ceased at around weight 2500 g. Among 72 infants surviving to discharge the mean (SD) z-scores were: birth weight -0.37 (-0.27) and weight at discharge -0.42 (-0.53). The prevalence of SGA (< 10 centile) at birth (13/72; 18%) was identical to the prevalence of SGA (< 10 centile) at discharge (13/72; 18%).

Conclusions: The rate of extra-uterine growth restriction was lower than previously reported in similar patient populations. We believe a high enteral volume intake is a safe method to increase energy and protein delivery and thus improve the nutritional status of very preterm infants.