

BLOOD UREA NITROGEN DURING THE FIRST 2 WEEKS OF LIFE IN VLBW INFANTS RECEIVING HIGH PROTEIN INTAKES

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Objective: High protein intakes have been associated with elevated blood urea nitrogen (BUN). This study evaluated BUN values in VLBW infants receiving high protein intakes postnatally according to recent recommendations.

Methods: BUN were evaluated in 102 infant with a birth weight < 1250g during the first 2 weeks of life. Analyses were evaluated during 3 periods of 5 days. Protein intake was 2.4 ± 0.3 , 3.8 ± 0.6 and 4.0 ± 0.6 g/kg*d on the first day, after 1 week and after 2 weeks respectively.

Results: 102 infants were included (BW= 1005 ± 157 g, GA= 25.5 ± 1.9 wks). Simple correlation analyses demonstrated that BUN decreased with protein intakes ($r=-0.16, p< 0.01$), postnatal age ($r=-0.21, p< 0.01$) and enteral feeding progression ($r=-0.40, p< 0.01$); and BUN increased with blood creatinine values ($r=0.71, p< 0.01$) and postnatal weight loss ($r=0.33, p< 0.01$). Similar correlations were observed during the 3 periods.

Multivariate analysis demonstrated that the major independent factor influencing BUN was blood creatinine value, explaining ~50% of the value. Protein intakes explained ~1% of urea value during the first 2 weeks of life.

Conclusions: BUN may not be interpreted in term of protein tolerance during the first 2 weeks of life in VLBW infants. BUN was mainly determined by renal function during early postnatal period.