

HIGH CORD BLOOD LEPTIN IS ASSOCIATED WITH REDUCED EARLY POSTNATAL GROWTH IN PRETERM INFANTS

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ABSTRACT

Although circulating leptin and insulin concentration have been correlated to intrauterine growth, fetal development and birth weight in full-term and preterm infants, the influence of cord blood insulin and leptin on the catch-up growth of preterm infants has not been explored. The study evaluated the association of cord blood leptin with growth and weight gain of 96 premature babies, followed during 6 months (corrected age). The temporal changes of anthropometric indexes over this period were assessed through repeated random regression (PROC MIXED) using SAS.

Cord blood leptin was negatively associated with the rate of change in BMI ($p=0.01$) and length ($p < 0.001$), from birth until 64 postnatal weeks. Insulin was positively associated with the rate of change in BMI ($p=0.03$), but this association disappeared after adjustment for birth weight. This study reveals, for the first time, the association between lower leptin levels with greater catch up growth for both BMI and length among preterm children. In conclusion, leptin levels at birth, but not insulin levels, predict growth rates.

Key words: cord blood leptin, insulin, growth, premature.