

ANALYSIS OF THE RELATIONSHIP OF INSULIN-LIKE GROWTH FACTOR-1 TO THE GROWTH VELOCITY AND FEEDING OF HEALTHY INFANTS

X. Wang, J. Qi, Y. Guan

Department of Pediatrics, Third Hospital Peking University, Beijing, China

Objective: The objective of this study is to analyze the trend of serum IGF-1 levels in healthy infants and the relationship of IGF-1 to the growth velocity and feeding method of infants.

Methods: Serum IGF-I levels were measured in 544 healthy infants, all of whom were full-term and appropriate for gestational age, and were born between 2006 and 2008 in the Third Hospital of Peking University, with their body length and weight measured and their feeding methods recorded every 1 to 2 months in this hospital. The analysis of the relationship of IGF-1 levels to growth velocity and feeding involved correction for gender and number of months in age.

Results: Serum IGF-1 level witnessed a small peak in 2-3 months after birth, dropped rapidly thereafter, reached the lowest point at Months 7-8, and was subsequently on slow rise. Serum IGF-1 levels were significantly higher in female infants [112.65 ng/ml (CI 91.82, 133.89)] than in male infants [74.38 ng/ml (CI 53.14, 95.61)] at early infancy. Infants fed with human milk had lower serum IGF-I levels than infants fed with formula milk or human milk plus formula milk (66.94 ± 45.85 ng/ml, 72.56 ± 36.55 ng/ml, 79.89 ± 51.79 ng/ml, respectively; $P=0.019$). IGF-1 levels were positively correlated to the growth velocity of body length ($P < 0.01$).

Conclusion: This study provides the trend for IGF-1 levels at infancy. It is highly possible that IGF-1 plays an important role in regulation and control of the length increase of infants, and feeding method influences serum IGF-1 level.