

Abstract

Twelve-month Growth and The Accession of Tolerance in Infants with Cow's Milk Protein Allergy Compared Among Those Fed with Breast Milk or Other Different Therapeutic Formulae

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Background: Cow's milk protein allergy (CMPA) is a common food allergy in children.

Objectives: The aim of this study was to investigate 12-month growth and the accession of tolerance in infants with cow's milk protein allergy compared among those fed with breast milk or other therapeutic formulae.

Method: This study included infants diagnosed with CMPA with treatment adherence for at least 6 months. Infants were categorized into 6 groups based on their feeding regimen, including: soy-based formula (SF), extensively hydrolyzed protein formula (EHF), commercial amino acid-based formula (cAAF), new amino acid-based formula (nAAF), chicken-based formula, and breast milk. Weight-for-age z-score (WAZ) and length-for-age z-score (LAZ) were evaluated at diagnosis and at follow-ups. Clinical manifestations, other allergenic foods, and the time of tolerance to CMP were assessed.

Results: Infants consuming EHF or SF had significantly improved WAZ ($p=0.000$ and $p=0.031$, respectively), and LAZ improved significantly in the EHF and nAAF groups ($p=0.021$ and $p=0.018$, respectively). Infants with one symptom had significantly increased growth compared with those with more than one symptom. Compared to breast milk, SF and EHF were both found to be significantly associated with decreased probability of tolerance to CMP (HR: 0.14, 95% CI: 0.03-0.62; $p=0.009$, and HR: 0.21, 95% CI: 0.07-0.64; $p=0.006$, respectively).

Conclusions: Improvement in growth was observed in CMPA infants after treatment but more pronounced growth was observed in those fed with EHF, SF, or nAAF. Probability of accession of tolerance to CMP was associated with breast milk with maternal CMP avoidance.