

## Relationship between breast milk sCD14, TGF- $\beta$ 1 and total IgA in the first month and development of eczema during infancy

### ABSTRACT

**INTRODUCTION:** The overall beneficial effects of breastfeeding for infants have been well documented, but its role in allergy prevention is controversial. **OBJECTIVE:** We investigated the relationship between breast milk immunomodulatory factors and subsequent development of eczema and atopic sensitization in the first year of life. **METHODS:** Day 7 and 28 breast milk samples were collected from mothers carrying infants at high risk of allergic disease. Aqueous-phase breast milk samples were assayed for TGF- $\beta$ 1, sCD14 and total IgA. Infants were assessed for the presence of eczema and atopic sensitization at 12 months of age. The levels of breast milk TGF- $\beta$ 1, sCD14 and total IgA were compared in infants who subsequently developed eczema and sensitization in the first year and those who did not. **RESULTS:** The levels of breast milk sCD14, total IgA, and TGF- $\beta$ 1 at either day 7 or 28 were not associated with subsequent development of eczema or atopic sensitization during the first year of life. **CONCLUSION:** Levels of breast milk immune parameters were not associated with eczema outcomes or sensitization in infants at 12 months. This suggests that apparent immunological effects on breast milk immunomodulatory factors may not necessarily lead to clinical benefits, and these immune markers may not be critical determinants of allergic disease in infancy.

**Keyword:** Breast milk; Eczema; Immunomodulatory factors; Infant; sCD14; Sensitization; TGF- $\beta$ 1; Total IgA