Allergic Sensitization and Disease in Mother-Child Pairs from Germany: Role of Early Childhood Environment

Abstract:
Background: Early childhood influences are important for the development of the allergic phenotype. In East Germany, tremendous lifestyle changes took place after 1990 and it can be hypothesized that the allergic phenotypes in mothers and their children are less similar than in West Germany. This was investigated in our study done in mothers and their 6-year-old children from East and West Germany in the year 2000.

Methods: 1,393 mother-child pairs participated. A subgroup of 774 pairs gave blood for the determination of specific IgE. Regional differences in mother-child correlations and in prevalence of mother-child combinations with respect to allergic sensitization and disease were examined by logistic regression analysis.

Results: The adjusted association in positive allergic sensitization between mothers and their children was not significant in East Germany (OR 1.23, 95% CI: 0.68–2.24) but highly significant in West Germany (OR 2.89, 95% CI: 1.73–4.80). The probability for the combination of ‘negative’ mother and ‘positive’ child was significantly higher in East than in West Germany.

Conclusions: Mother-child transmission of atopy predisposition can even be cancelled by environmental changes.
East-West German comparison; Mother-child correlation; Western lifestyle; Allergic diseases; Allergic sensitizations