Perinatal exposure to endotoxin and the development of eczema during the first 6 years of life.

Abstract:
Previous studies have reported a protective association between high levels of exposure to endotoxin during infancy and the development of subsequent eczema within the first 6 months of life. To investigate the association between exposure in infancy to endotoxin from mattress dust and the development of eczema up to age of 6 years in 2166 children participating in the German Influences of Lifestyle-Related Factors on the Immune System and the Development of Allergies in Childhood (LISA) study, an ongoing population-based birth-cohort study. Endotoxin levels in house dust samples collected at 3 months after birth were quantified using the kinetic Limulus amebocyte lysate assay. Specific IgE antibodies to common food and aeroallergens were measured using radioallergosorbent test, fluorenzyme immunoassay (Pharmacia CAP system) when children were 2 and 6 years old. Information on eczema symptoms and physician-diagnosed eczema were collected at each follow-up using a questionnaire. No association was found between endotoxin exposure from mattresses (the mattresses of each child and their parents were examined) during infancy and the development of eczema symptoms or doctor-diagnosed eczema by 6 years of age (OR = 1.1, 95% CI 0.5-2.3, and OR = 1.1, 95% CI 0.4-3.3,
respectively). No association was found when children with only atopic eczema. Endotoxin exposure during infancy is unlikely to have a large long-term effect on the development of eczema, especially the atopic form.