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Titel des Beitrags: Does airborne nickel exposure induce nickel sensitization?

Abstract: Nickel is one of the most prevalent causes of contact allergy in the general population. This study focuses on human exposure to airborne nickel and its potential to induce allergic sensitization. The study group consisted of 309 children at school-starter age living in the West of Germany in the vicinity of two industrial sources and in a rural town without nearby point sources of nickel. An exposure assessment of nickel in ambient air was available for children in the Ruhr district using routinely monitored ambient air quality data and dispersion modelling. Internal nickel exposure was assessed by nickel concentrations in morning urine samples of the children. The observed nickel sensitization prevalence rates varied between 12.6% and 30.7%. Statistically significant associations were showed between exposure to nickel in ambient air and urinary nickel concentration as well as between urinary nickel concentration and nickel sensitization. Furthermore, an elevated prevalence of nickel sensitization was associated with exposure to increased nickel concentrations in ambient air. The observed associations support the assumption that inhaled nickel in ambient air might be a risk factor for nickel sensitization; further studies in larger collectives are necessary.

Zeitschriftentitel / Abkürzung: Contact Dermatitis

Jahr: