The effect of environmental tobacco smoke on eczema and allergic sensitization in children.

BACKGROUND: The negative impact of environmental tobacco smoke (ETS) on airway diseases in children is well known. Whether there is an effect on atopic eczema is not clear. OBJECTIVES: To determine the impact of ETS on atopic eczema, allergic sensitization and allergic airway diseases in 1669 school beginners. METHODS: The prevalence of atopy-related health outcomes was assessed by questionnaire, dermatological examination, skin prick testing and specific immunoglobulin E measurement. Exposure assessments were based on measurement of cotinine [expressed as cotinine to creatine ratio (CCR)] in spot urine samples (n = 1220) together with questionnaire and interview data on smoking behaviour of the parents. RESULTS: In the total study group, prevalence of atopic eczema diagnosed on examination was significantly associated with urinary CCR values. The odds ratio (OR) and 95% confidence interval (CI), calculated for an increase of 100 ng mg⁻¹ CCR was 1.97 (95% CI 1.23-3.16). The prevalence of skin manifestations according to questionnaire data as well as a history of asthma, wheezing, and hay fever were positively although not significantly associated with ETS exposure. When genetically predisposed children (defined by the presence of parental atopy) were compared with children whose parents...
had no atopy, the ORs of allergic outcome variables were generally higher in the first group. In the
group of predisposed children, significant associations with urinary CCR were found for allergic
sensitization against house dust mites as measured by skin prick test (OR 3.10, 95% CI 1.63-5.90).
CONCLUSIONS: Children are at a higher risk of developing an atopic eczema when exposed to ETS
and genetically predisposed children are at higher risk of developing a sensitization against house
dust mites.