

SYNOPSIS

- Children (n=337) aged 6-14 years, from a poor South African urban community, were recruited to a cross sectional study.
- The children were assessed for rhinitis according to the ISAAC questionnaire.
- *Mycobacterium tuberculosis* infection was tested by the Tuberculin Skin Test.
- IgE sensitization was tested by skin prick test using mite, Bermuda grass, Rye grass, cat, dog, *Alternaria*, *Cladosporium* and *Aspergillus*.
- Total serum IgE and IgE antibodies to *Ascaris lumbricoides* were measured with ImmunoCAP™ (Pharmacia Diagnostics AB, Uppsala, Sweden).
- The logistic regression analysis were adjusted for possible confounding variables: demographic, socioeconomic, genetic and parasite infection.
- Among the children, 53% had positive TST, 10.4% reported rhinitis symptoms and 17.5% were sensitized to common allergens.

Citation: Obihara CC et al. Inverse association between *Mycobacterium tuberculosis* infection and atopic rhinitis in children.
Allergy 2005; 60:1121-5.

SYNOPSIS

- 4,169 children (range 5-14 years, mean 9.18 years) participated.
- Allergen-specific serum IgE to grass, birch, mite, cat and *Cladosporium* was assayed (ImmunoCAP™).
- History of eczema and worm infestation were based on a questionnaire.
- Data were analyzed by odds ratio and logistic regression.
- History of eczema was obtained in 18.1%, worm infestation in 17.0% and allergen sensitization in 29% of the studied populations.
- Prior worm infestation reduced the risk of allergen sensitization (OR: 0.73, 95% CI: 0.58-0.91), development of atopic eczema (OR: 0.31, 95% CI 0.18-0.56) and non-atopic eczema (OR: 0.58, 95% CI: 0.40-0.84).

Citation: Schäfer T et al. Worm infestation and the negative association with eczema (atopic/nonatopic) and allergic sensitization.
Allergy 2005; 60:1014-20.

SYNOPSIS

- A cross sectional study of 9-11 years old children was performed between 1992-2001.
- The study was conducted at six different year points and in three different locations in southwestern part of Germany.
- Diagnosis of asthma, hay fever, and wheezing was based on a comprehensive questionnaire (ISAAC) to the parents.
- Allergen-specific serum IgE was measured to a panel of aeroallergens including grass, birch, mugwort, mite, cat, dog and *Cladosporium* (ImmunoCAP™).
- The results were analyzed by logistic regression and were stratified by nationality to avoid confounding.
- Odds ratio were adjusted for sex, family history of atopic disease, socioeconomic status, breast-feeding, passive smoking, number of siblings, place of living, dampness.

Citation: Zöllner IK et al. No increase in the prevalence of asthma, allergies, and atopic sensitization among children in Germany: 1992-2001.
Thorax 2005; 60:545-8.

There is an inverse association between *Mycobacterium tuberculosis* infection and atopic rhinitis in children but not in the prevalence of IgE sensitization in a poor urban community

The aim of this study was to investigate the association between *Mycobacterium tuberculosis* (MTB) infection and atopic rhinitis in children recruited from a community with high incidence of MTB infections. The children were assessed for rhinitis according to the ISAAC questionnaire and tested for MTB infection by the tuberculin skin test (TST). Allergen-specific IgE sensitizations were tested by using eight common allergens. Atopic rhinitis was defined as reported rhinitis symptoms and presence of IgE sensitization.

The prevalence of IgE sensitization was low but did not differ significantly in relation to positive TST, household income or parasite infection. However, children with a positive TST were significantly less likely to have atopic rhinitis than those with negative TST (0.6% vs. 7.0%). TST-negative children reporting recent rhinitis symptom were significantly ($p < 0.001$) more often IgE-sensitized compared to TST-positive children. The adjusted odds ratio to have atopic rhinitis in TST-positive children compared to TST-negative was very low (OR adj: 0.06, 95% CI 0.007-0.5).

In summary, the authors could show a difference between TST-positive and TST-negative children in relation to atopic rhinitis but not to the prevalence of IgE-sensitization in general. However, allergic children with MTB infection showed a reduced SPT reactivity. The authors conclude that earlier conflicting results for an inverse association between MTB infection and atopic disease may be due to the use of different definitions of atopy.

Worm infestation in children reduce the risk of allergic sensitization and clinical expression of both atopic and non-atopic eczema

There is a well-established negative association between worm infestation and manifestation of atopic allergy. Since worms are strong TH2 stimulus a more complex immunological relation must exist than can be explained by the "hygiene hypothesis". Earlier studies have been focused on clinical outcomes such as asthma and allergen sensitization.

The objective of this study was to investigate the association between worm infestation in children from East Germany and the clinical expression of atopic and non-atopic eczema.

A prior worm infestation was reported in 17% of the children. According to logistic regression analysis a history of worm infestation reduced the risk of allergic sensitization with 27% measured as allergen-specific IgE to five common aeroallergens. When using eczema as clinical outcome, a prior worm infestation was associated to a risk reduction of 69% to develop atopic eczema and 42% to develop non-atopic eczema. If the temporal sequence of eczema and worm infestation was not taken into account no association was observed.

The authors speculate that prior worm infestation reduce the risk of allergen sensitization and prevalence of eczema by different pathways.

The increase in atopic sensitization and prevalence of childhood asthma has stopped and reached a plateau in southwestern Germany

The aim of this study was to assess if the increase in childhood asthma and atopic sensitization is ongoing or if it has reach a plateau. A cross sectional study of 9-11 years old children was performed between 1992-2001. Diagnosis of asthma, hay fever, and wheezing was based on a questionnaire to the parents. Atopic sensitization was investigated by measuring allergen-specific IgE antibodies to a panel of aeroallergens. The results were analyzed by logistic regression and were stratified by nationality to avoid confounding. The participation rates remained stable over time.

There were no significant changes in the prevalence of symptoms, diagnosis of asthma and hay fever over time. Moreover, the prevalence of atopic sensitization did not changed over the period and varied from 29.9% to 36.4%. Odds ratio was close to 1 and no of the factors tested in the multivariate analyses influenced the results.

The authors conclude that it has not been any further increase in the prevalence of symptoms, diagnosis of childhood asthma and atopic sensitization between 1992 and 2001 in southwestern Germany. The results are in line with recent studies from several other countries.