ORIGINAL ARTICLE

ABSTRACT I

Exposure to Pets and the Risk of Allergic Symptoms During the First 2 Years of Life

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Abstract

Background: Currently, there is a lack of consensus regarding the influence of household pets on the development of allergic diseases in childhood.
Objective: The aim of this birth cohort study was to analyze the relationship between pet ownership at time of birth and the prevalence of atopic diseases approximately 2 years later.
Methods: A few days after the delivery of their babies, we asked 3132 mothers of German nationality whether they kept household pets like dogs, cats, or birds. Two years later, we asked whether their children had developed bronchial asthma, eczema, or hay fever. We then used logistic regression models to analyze whether there was an association between the development of allergic reactions among the children and pet ownership at the time of birth.
Results: In families without a history of atopic disease, the prevalence of asthma and eczema among 2-year-old children was significantly lower in those families that owned a dog at the time the children were born (odds ratio [OR], 0.52; 95% confidence interval [CI], 0.33-0.83). In contrast, in families with a history of atopic disease, early dog exposure was associated with a higher prevalence of asthma and eczema in 2-year-old children (OR, 1.43; 95% CI, 0.95-2.15). Comparable analyses assessing the influence of cats and birds in the home showed no effect on the development of atopic diseases in early childhood.
Conclusions: This study confirms the findings of several earlier studies suggesting a negative association between dog ownership and the development of atopic diseases in early childhood, although the effect was only observed in families without a history of atopic disorders.

Key words: Allergies. Children. Epidemiology. Pets.

ABSTRACT II

T Helper Cell Population and Eosinophilia in Nasal Polyps

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Abstract

Objective: To analyze the immunological pattern of nasal polyposis in patients with and without allergy, the percentages of $CD4^+$ cells expressing intracellular interferon-γ and interleukin-4 (T helper [T_H] type 1 and 2 cells) were measured by flow cytometry in samples from patients with nasal polyps.
Methods: Samples from 32 patients (16 atopic, 16 nonatopic) were studied. The fresh nasal polyp samples were prepared in single cell suspension for flow cytometry. Eosinophils were counted in hematoxylin-and-eosin–stained sections of all the samples.
Results: T_H1 cells were predominant in all the nasal polyps, with no significant differences in the mean (±SD) percentages of T_H1 cells between the 2 groups (46.28% ± 14.95% vs 38.25% ± 9.16%, $P > .05$). The mean percentage of T_H2 cells in the polyps from the atopic patient group was significantly greater than in polyps from nonatopic group (7.34% ± 2.54% vs 0.63% ± 0.31%, respectively; $P < .01$); the eosinophil count was significantly higher in atopic patient polyp samples (54.5 ± 15.76 eosinophils/HPF) than in nonatopic ones (14.38 ± 5.6 eosinophils/HPF, $P < .01$). The mean percentage of T_H1 cell correlated with eosinophil count in the polyp samples overall ($r = 0.80$, $P < .01$).
Conclusions: T_H1 cells were predominant in nasal polyp tissue. Polyps from atopic patients had more T_H2 cells and eosinophils than nonatopic patients' polyps did. Eosinophil recruitment in nasal polyposis is probably associated with T_H2 cell infiltration. Nonatopic and atopic patients' polyps have different immunological patterns.

Key words: Nasal polyps. T helper cells: T_H1, T_H2. Flow cytometry. Eosinophilia.