one. In large part, patients (and parents) are looking for any conceivable excuse to keep their pets. In practical terms, if a child is already allergic to pet and nonpet allergens, there is no benefit in keeping their pets. If a child is allergic to nonpet allergens but not pets, there is no help in acquiring a pet, but it’s not necessary to eliminate an existing pet. If a child has asthma and is pet-allergic, the pet should be removed from the home. If a newborn is joining a household with a pet(s), then and only then will dog or multiple pet exposure provide potential benefit. If a child does develop pet allergies or nonpet allergies before age 7, the above recommendations then prevail.

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EFFECT OF CAT AND DOG OWNERSHIP ON SENSITIZATION AND DEVELOPMENT OF ASTHMA AMONG PRETEENAGE CHILDREN
Perzanowski, MS, Ronmark E, Platts-Mills TAE, Lundback B. Am J Respir Crit Care Med. 2002;166:696–702

Purpose of the Study. To determine what effect living with a cat or a dog has on the development of allergy and asthma.

Methods. This study was conducted in 3 towns close to the Arctic circle in Sweden. In 1996, first and second grade students (ages 7–8 years) were invited to participate. The number of participants was 3431. Families were asked questions modeled after the International Study of Asthma and Allergies in Childhood (ISAAC) in which the definition of asthma was based on responses to the questions of “ever having asthma,” “physician-diagnosed asthma,” or “wheezing in the past 12 months.” A family history of asthma indicated that either the parents or a sibling had asthma. There were 3 categories of pet ownership—“current,” “previous,” and “ever” (a combination of past and current ownership) during the study period. The questionnaires were used over the next 3 years. Type I allergic responses were determined by skin testing. Eighty-eight percent of the participating children were prick skin-tested to a variety of common allergens. In 1 of the 3 participating towns, blood samples were taken for determination of specific immunoglobulin E (IgE) and for immunoglobulin G (IgG) and IgG4 antibodies to cat.

Results. Over 3 years, in children 7 to 8 years at entry to 10 to 11 years at the end of the study period, the cumulative incidence of “ever having asthma” = 4.1%, “physician-diagnosed asthma” = 2.4% and “wheezing in the past 12 months” = 8.3%. Incidence rates of asthma were similar for each of the 3 years of the study. For each asthma category, type I allergy (relative risk: 4.9) and a family history of asthma (relative risk: 2.83) were the greatest risk factors for the incidence of asthma. Cat ownership was inversely associated with the incidence of “physician-diagnosed” asthma with an odds ratio of 0.56 (P = .047). For dog ownership, there was also a negative association; however, this was not significant, (odds ratio: 0.79; P = .36). Also, a significant inverse relationship was found between ever living in a house with a cat and having a positive skin test to a cat (risk ratio: 0.62). The association was not significant for dog (risk ratio: 0.79). This inverse relation was stronger in the children who had a family history of allergy. It was also found that having a cat was associated with a decreased prevalence of having a positive skin test to birch tree pollen or to dog (P < .001). In 1996, the baseline year for the study, there were significant inverse relationships between ever having a cat at home and the prevalence of “ever having asthma” (risk ratio: 0.50), “physician-diagnosed asthma” (risk ratio: 0.54) and “wheezing in the past 12 months” (risk ratio: 0.71). Similar, but less striking inverse correlations were found with dog (relative risk ratios: 0.69, 0.75, and 0.82). Asthma prevalence was highest in children with a family history of asthma. The inverse relationship of cat ownership and allergy was only significant in those children who had a family history of asthma. Looking at the 3-year cumulative data for children with a family history of asthma, owning a cat had a significant protective effect against developing asthma in cases of “physician-diagnosed asthma” and “ever having asthma.” Dog ownership did show a similar protective effect; however, the relationship was not significant. Serum analysis was performed in only a smaller subset of the population. Serum on 117 children who lived with a cat showed only 6.8% with measurable specific IgE to cat and 48.7% had IgG to the major cat allergy without any IgE response. In 586 who never lived with a cat, significantly more (15.4%) had IgE and only 9.2% had IgG without IgE. Twenty-five percent of children with IgE to cat reported a physician diagnosis of asthma at some time during the study. Only 8.1% of children who had IgG but not IgE to cat and only 6.1% of children with no antibody response at all to cat reported “physician-diagnosed” asthma.

Conclusions. In a community where sensitization to cat was strongly associated with asthma, owning a cat provided protection against both prevalent and incident asthma. Weaker protective effects were observed with dog.

Reviewer’s Comments. For years it has been recommended that children at risk of developing allergy avoid specific allergens, cats being one of those more potent and potentially avoidable allergens. This study has shaken the foundation of that age old recommendation. The findings here are that ownership of a cat is protective against the development of asthma and allergy. However thought-provoking this is, we need to consider the findings in the context of the population that was evaluated. This study was performed in Sweden in an area where dust mites and cockroach allergy are rare. It will be important to see if the findings here hold true for different populations of children with asthma. I also look forward to further understanding of the pathophysiology of this response and how it could relate to other allergens.

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PLACEBO-CONTROLLED TRIAL OF HOUSE DUST MITE-IMPERMEABLE MATTRESS COVERS: EFFECT ON SYMPTOMS IN EARLY CHILDHOOD

Purpose of the Study. To look at the effect of using house dust mite impermeable mattress covers on the development of respiratory symptoms, atopic eczema, and mite sensitization in children born to mothers with allergy.

Methods. This study is a report from the Prevention and Incidence of Asthma and Mite Allergy (PIAMA) study which has been conducted in a number of European centers. There were a total of 1282 pregnant women who participated. These women were randomized to the intervention study ([IS]: n = 810) or the natural history study ([NHS]: n = 472). The IS group was further divided into active treatment (n = 416) or placebo treatment (n = 394). Active treatment consisted of the use of polyester-cotton allergen impermeable covers for the mattress and pillows of the mother during the third trimester of pregnancy. The infant’s mattresses were also covered. The placebo group...
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