

Correspondence

Chronic cat allergen exposure and low sensitization: Possible limitations in patient selection?

To the Editor:

We have read with interest the article by Renand et al.¹ showing that chronic exposure to cat allergen is related to low sensitization and symptoms through accumulation of sT_H2 cells and IgG₄ production. The relationship between exposure to pet allergens (especially cat) and the development or inhibition of allergic sensitization and clinical symptoms is of great interest, but it is also very controversial because some authors have found an increased risk and others have noticed a “protective” effect.² Recently, these contradictory aspects have been reviewed by Konradsen et al.³ who stressed possible selection biases in these studies. Because it is likely that families with the most severe allergy could avoid owning pets compared with families with mild allergy, the apparent protective effect of cat ownership could be explained in part by the fact that the families with the most severe allergy do not have pets at home.³

We greatly appreciated the excellent laboratory work, about which we have no complaints. Instead, we have some serious concerns about several aspects related to patient selection and evaluation of symptoms.

Cat ownership, as usual, should not be considered the only index of exposure to cat allergens and therefore the main risk factor for allergic sensitization/clinical symptoms.^{4,5} Dynamic distribution of the main cat allergens indoors is complex and depends on production, aerodispersion, sedimentation, and passive transport through clothes and other items.⁶ These variables also determine a diffuse presence of pet allergens in indoor environments without pets and in environments in which pets have not

been present for some time.⁶ For this reason, we have suggested a new and more realistic classification of possible modalities of exposure to cat allergens (Fig 1).⁷

Fig 1 clearly shows that condition 2 is the only condition usually reported in the questionnaires used for studies on the relationship between exposure to cat allergens and subsequent enhancing or “protective” effect on allergic sensitization or clinical symptoms. In conditions 1, 3, and 4 the presence of cats in the home is considered “formally negative,” but the level of exposure (direct/indirect) to cat allergens could be outstanding. Only condition 5 should be considered of lower risk after having excluded any direct and “indirect” contact. As a consequence, and also considering the low number of examined patients, an evaluation of the indoor presence of Fel d 1 could have been the most reliable option. The article by Konradsen et al.³ outlined the increasing popularity of some small furry pets, such as rabbits, guinea pigs, and hamsters. Recently, Hilger et al.⁸ isolated a major rabbit allergen (Ory c 3) by studying sera of 35 patients sensitized and directly exposed at different times to rabbit. As a comment to this last article, we have suggested a possible role of Ory c 3 as a sensitizing agent in real life in subjects with different modalities of exposure to rabbit.⁹

Another crucial point to consider is the serious lack in description of clinical features of cat-sensitized patients. In particular, it is not reported whether these patients are mono-sensitized to cat allergen (a mandatory condition in this type of study) or sensitized also to other indoor allergens, such as dust mites, dogs, and molds. In this last case, the role of cat allergens in inducing respiratory symptoms should not be considered conclusive. The crucial point of associated sensitizations, especially to dust mite, and the difficulty in distinguishing respective roles in real life have been stressed by Konradsen et al.³

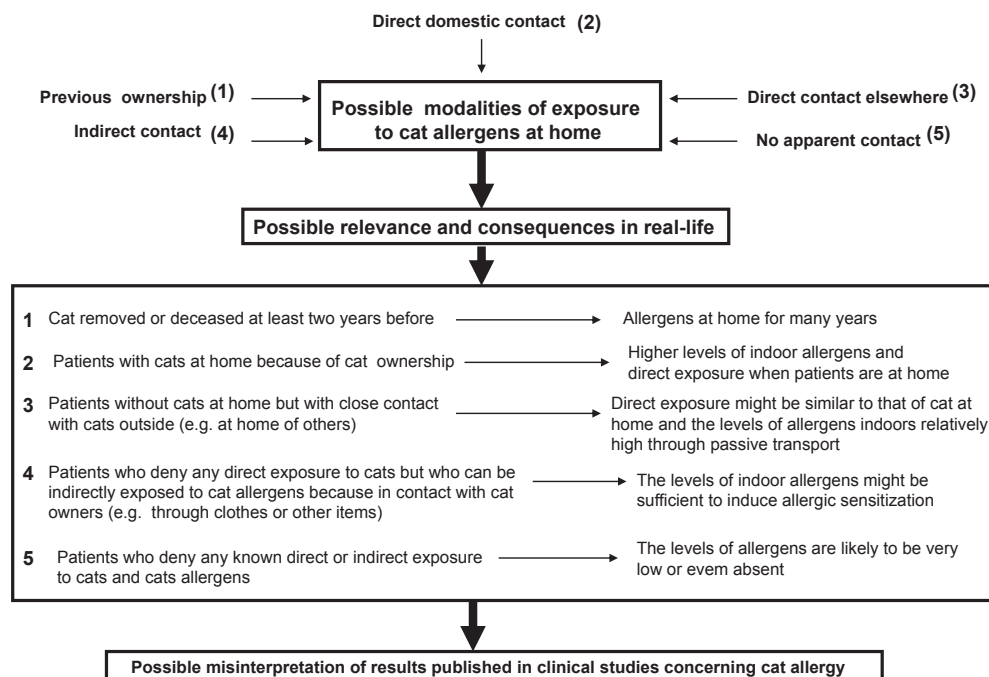


FIG 1. Suggested modalities of exposure to cat allergens and possible consequences in real life. Modified from Liccardi et al.⁷

Finally, no data were reported on the classification of asthma symptoms according to international guidelines. This information is crucial in cat-sensitized subjects because it has been shown that cat allergen-carrying particles are able to reach the small airways, inducing prolonged local obstruction.¹⁰

In conclusion, we think that the relationship between exposure to cat allergen and the development of sensitization and symptoms is complex and controversial. This is why the need for special attention to the selection of allergic patients must be considered a priority before they are referred for sophisticated laboratory investigations to achieve reliable results.

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