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LETTER TO THE EDITOR

Can pet keeping be considered the only criterion of exposure to cat/dog allergens in the first year of life?

To the Editor,

We read with interest the article from Colli-Lista and Pérez-Frias[1] showing that early exposure to common pets (cat/dog) did not modify the risk of allergic sensitisation to cat/dog allergens in preschool children. A ''protective'' effect has been found against the allergens of dust mites.

The topic ''early exposure to pets and subsequent sensitisation to pet allergens'' is very controversial, because some authors have found the same as Colli-Lista and Pérez-Frias, while others have noticed an increased risk or even a ''protective'' effect.

In our opinion, a serious limitation to the conclusions of this research (but also of other similar studies) has not been included in the list of limitations already acknowledged by the authors.

First of all, the presence of a pet at home, as usually done, should not be considered the only index of exposure to pet allergens and, consequently, the main risk factor for allergic sensitisation.

Dynamic distribution of the main pet allergens indoors is complex depending on production, aero-dispersion, sedimentation and passive transport through clothes and other items. These variables also determine a diffuse presence of pet allergens in indoor environments without pets (indirect exposure), and in those where pets have not been present

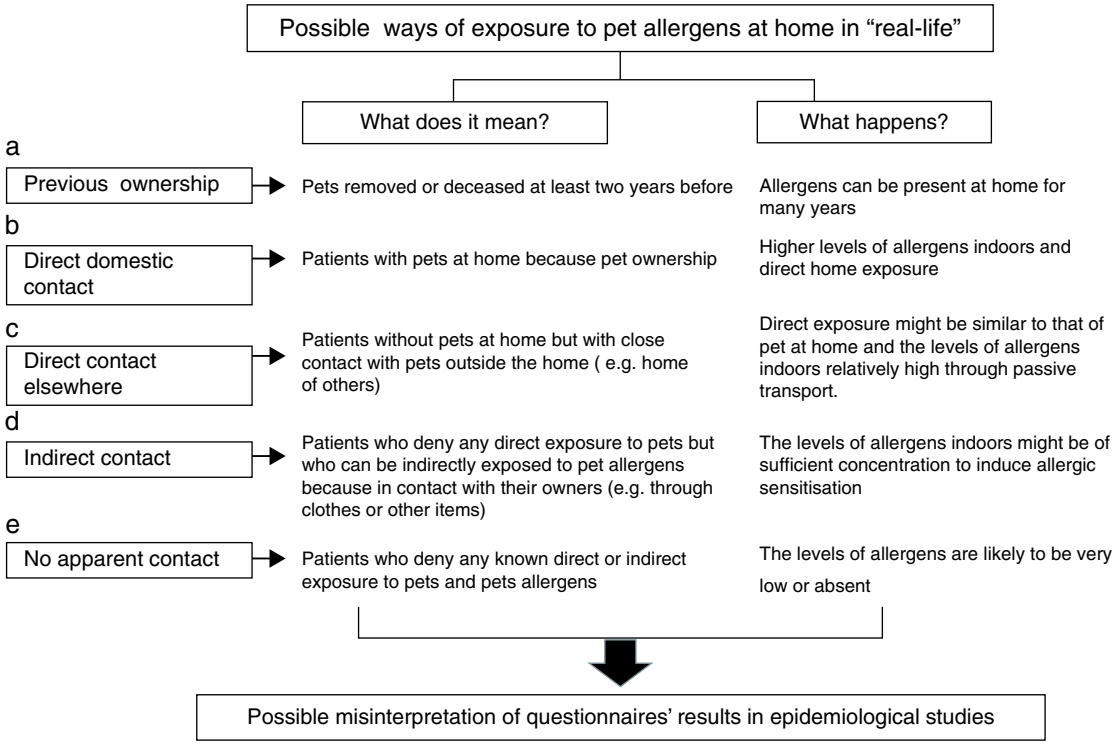

Figure 1 Suggested modalities of exposure to pet allergens and possible consequences in real-life.

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for some time (e.g. voluntary removal or re-location, natural death, etc.).[2,3] The higher the frequency of pet ownership in a given community the higher the degree of pet allergen contamination of pet-free private homes. In this context, also in some public places (schools, day care centres, means of transport, etc.), passive transfer constitutes the exclusive modality of common pet or other animal allergens contamination.[4] Finally, several studies have shown that amounts of pet allergens passively transferred in pet-free environments are of sufficient concentration to induce allergic sensitisation in susceptible, atopic individuals and able to trigger respiratory symptoms in already pet-sensitised subjects, particularly in the highly sensitised ones.

On the basis of this background, we suggest a new, more realistic classification of possible modalities of exposure to pet allergens (Fig. 1).

Fig. 1 clearly shows that condition (b) is the only one usually reported in the questionnaires used for large epidemiological studies on the relationship between early exposure to pet allergens and subsequent enhancing or protective effect on allergic sensitisation to these allergens.

In conditions (a, c and d) the presence of pets at home is considered ''formally negative'' in the questionnaires but the level of exposure (direct/indirect) to pet allergens could be outstanding. Only condition (e) should be considered at the lower risk of pet allergen exposure after having certainly excluded any direct as well as ''indirect contact''.

We have already used this classification of exposure either for common pets or for a bigger animal such as horse, in this latter case with some modifications. In these studies we have shown the role of these different means of exposure on the prevalence of allergic sensitisation to several furry animals.[5–7]

We think that our classification could be particularly relevant to evaluate the modality of pet exposure at home in all countries characterised by a high frequency of pet ownership. It is likely that, in these countries, the ''average amount'' of pet allergens indoors could be high (or very high in some particular conditions) also in homes without pets. In conclusion, the magnitude of exposure to pet allergens at home is not related exclusively to pet ownership/presence of a pet indoors but it can also be relevant where there is no pet living with the inhabitants. These considerations should be taken into account during the planning of epidemiological studies on the relationship between exposure to pet and development of allergic sensitisation to pet allergens.

Ethical disclosures

Confidentiality of data. The authors declare that no patient data appears in this article.

Right to privacy and informed consent. The authors declare that no patient data appears in this article.

Protection of human subjects and animals in research. The authors declare that no experiments were performed on humans or animals for this investigation.

Summary statement

Pet keeping should not be considered the only index of pet allergen exposure in early life.

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Authors' contribution

All authors contributed equally in the writing and revision of the manuscript.

Conflict of interest

All authors declare that they have no conflict of interest.

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