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Allergic or nonallergic rhinitis?

To the Editor:

I read with interest the article by Rondón et al¹ on the possible allergen sensitization in subjects with nonallergic rhinitis (NAR). The authors conclude that “persistent moderate-to-severe rhinitis associated with asthma, conjunctivitis, or both and sensitization to aeroallergens are likely to appear at a later date in adults initially given diagnoses of NAR. A periodic re-evaluation of these patients might therefore be necessary.” Moreover, they report that the most frequent specific aeroallergen was *Dermatophagoides pteronyssinus*.

Could these patients initially have been misdiagnosed as not having allergy?

In our clinical practice, we have observed that the reaction in positive skin prick tests performed with *D pteronyssinus* is less intense than in those performed with pollens: 61.6 ± 41.3 versus 96.6 ± 27.8 (the results were expressed as the percentage of the mean wheal diameter provoked by the allergen

compared with that provoked by histamine $\pm$ SD). The same results were obtained with standardized extracts from 2 different companies. It may also be that some hyporeactive patients show a negative response to skin prick tests under certain conditions, such as low exposure to allergens. Moreover, a great variability of the allergen content in 5 skin prick tests has recently been confirmed by Sander et al² (Phl p 5 content ranged from 0.2 to 21.6 μ g).

Patients affected by persistent moderate-to-severe rhinitis associated with asthma, conjunctivitis, or both, whose reaction to house dust mite skin prick tests is negative, must undergo a second line of allergic diagnosis—for example, an intracutaneous skin test or specific nasal provocation test. It is possible that many apparent cases of nonallergic rhinitis could in fact be misdiagnosed allergic rhinitis. Further research is needed to confirm or reject this hypothesis.

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Reply

To the Editor:

Di Berardino¹ suggests that many apparent cases of nonallergic rhinitis reported in our recent article² could be underdiagnosed because of the nonoptimal sensitivity of the skin prick test (SPT). We believe these comments require clarification. Di Berardino states¹ that in her clinical practice, the reaction to SPTs with *Dermatophagoides pteronyssinus* is less intense than that with pollens, that “some hyporeactive patients show a negative response to skin prick tests,” and that great variability of the allergen content exists between SPT extracts of different companies.³ These same findings cannot be extrapolated from the results of our study. In our survey,² SPTs were performed at both the initial and the final evaluation with the same extracts (ALK-Abelló, Madrid, Spain) and in the same patients. *D pteronyssinus* extracts used for SPT, formulated with the main allergens, ensure a fixed content of protein with no significant variability between lots (Der p 1, 40 μ g/mL; Der p 2, 20 μ g/mL), and the patients acted as their own controls, thus avoiding possible differences in the degree of reactivity. Furthermore, serum-specific IgE to *D pteronyssinus*, pollens, molds, cat, and dog were determined in all the patients with negative SPT by means of ImmunoCAP. This *in vitro* technique has shown a good sensitivity for mites and cat allergens, a higher specificity for grass pollen in comparison with SPT in patients with allergy,⁴ and a high correlation with negative response to SPT in nonatopic patients.^{5,6}

Concerning the usefulness of the intradermal skin test with *D pteronyssinus*, we have previously addressed this issue and

obtained negative responses to intradermal skin test with *D pteronyssinus* in 50 patients with persistent nonallergic rhinitis,⁵ and with grass and *Olea europaea* pollen in 32 patients with seasonal nonallergic rhinitis.⁶ In both studies, all patients had negative SPT and serum-specific IgE (ImmunoCAP). These results suggest that no additional information is provided with intradermal skin test when SPTs are performed with well standardized allergen extracts plus determination of serum-specific IgE antibodies. By no means do we wish to deny that in certain cases patients can be intradermal skin test–positive and SPT-negative, but in our experience, this seems to be limited to a reduced number of cases.

Finally, the nasal provocation test is useful in all patients with a suggestive history of allergic rhinitis to verify whether local production of IgE exists in the absence of systemic atopy. In fact, we have already used this approach in a limited series of cases.^{5,6} The possibility exists that an important proportion of cases evaluated in our study² had a local allergic rhinitis with local production of IgE antibodies and/or a positive NPT and that, over time, they will evolve to allergic rhinitis with positive SPTs and serum-specific IgE antibodies. In fact, a relevant study is currently in progress, and we already have data available to support this statement.

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Correction

With regard to the June 2009 feature entitled "Health care settings around the world" (*J Allergy Clin Immunol* 2009;123:1240-1), the name of contributor Shaihong Zhu was misspelled. The Editors thank Dr Zhu for his contribution to this feature.