

CORRESPONDENCE

Can component-resolved diagnosis overturn the current knowledge on vespid allergy?

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To the Editor

In the study by Monsalve et al. (1), 45 individuals with allergic reactions to vespid stings and positive tests to vespid venoms were studied by measuring their IgE to single recombinant and natural allergens from *Vespula* and *Polistes*. The results showed that such component-resolved diagnosis (CRD) allowed to recognize the really causative venom in 31 cases (69%), while in 14, a double sensitization was apparent. However, among the patients identified by CRD as monosensitized, 22 (71%) were sensitized to *Polistes* venom and 9 (29%) were sensitized to *Vespula* venom. This is in striking contrast with what we know about entomological and clinical aspects of hypersensitivity to vespids. In fact, *Vespula* spp. is much more aggressive than *Polistes* spp., this making the former the culprit insect in most cases of allergic reactions to vespid venom (2). In the first study demonstrating by the RAST-inhibition technique that in most patients with double sensitization to *Vespula* and *Polistes* only one venom was really causative, *Polistes* venom was identified only in 4.3% of patients (3). One may consider that the geographic distribution of *Polistes* is especially relevant in Mediterranean areas including Spain (4), but in an epidemiologic study

conducted in Spain, the percentage of subjects with a positive RAST for *Vespula* venom was more than double the percentage found for *Polistes* (5). The most likely explanation of the finding from Monsalve et al. is provided by the low number of patients and thus on the stochastic nature of the data. Had the authors examined a number of patients as predetermined by statistical calculation, the results would have been different. However, any other explanation from the authors will be useful to appraise the real role of CRD in Hymenoptera venom allergy.

Conflict of interest

Cristoforo Incorvaia is a scientific consultant for Stallergenes, Milan, Italy. Marina Mauro has no conflict of interest.

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REPLY

In the manuscript by Monsalve et al. (1) we have summarized a long-term study, performed in a collaboration between ALK-Abelló and the Hymenoptera Committee of the SEAIC (Spanish Society of Allergy and Clinical Immunology), showing which components are the most important if Component-Resolved Diagnosis (CRD) is to be performed for defining, together with other clinical determinations, the possible sensitizing species of vespid, mainly differentiating between sensitization to *Vespula* or to *Polistes*. During the method set-up, many more patients (more than 180) have been tested,

driving us to the evidence-based conclusions presented in our manuscript. The method developed has highly specific diagnostic capacity, not being affected by low-affinity IgEs, nor by contaminating IgGs (2), and we are pretty confident that the data are reliable and very specific. We therefore think that sensitization to *Polistes* has been disregarded until now, and can be more efficiently detected nowadays.

All this research has been performed in parallel with studies presented by several authors, demonstrating the importance of the European paper wasp, *Polistes dominulus*,

as a clinically-relevant species (3, 4), being disregarded until now probably also due to the fact that until June 2006 (when ALK-Abelló launched to the market the Pharmedgen®-*P. dominulus* extract for diagnosis and immunotherapy) only a mixture of American species of *Polistes* was used for these purposes. With the latter mixture, probably some patients might have been incorrectly diagnosed (4), also hiding the real relevance of *Polistes* among European patients. The clinical importance of these facts is demonstrated by the evidence of several cases in which the wrong diagnosis and/or treatment 'could deprive the patients of life-saving immunotherapy' (4) as also clinically shown by Bonadonna et al. (5) and Dalmau et al. (6) in life-threatening situations. In addition, Caruso et al. (7) attempted a differentiation of the sensitization to *P. dominulus* and *Vespula vulgaris*, by means of laborious CAP-inhibition assays, obtaining results quite similar to those observed in our study in Spain: in 45 patients from northern Italy, 56% of positivity was attributed to *P. dominulus*, 13% to *Vespula*, and 31% could not be defined (25, 6 and 14 patients, respectively).

Apart from these evidences, that should change our way of looking at the problem of *Polistes* not being so relevant, entomologically *P. dominulus* should also be considered as an invasive species, and as aggressive as *Vespula*, since they occupy different niches. *P. dominulus* has already been referenced as an increasingly present wasp in certain areas of Europe (8), also expanding to northern and eastern Europe and being considered an invasive wasp in several regions of the United States of America (9–11), in some cases prevailing over the *Polistes* species previously present. Besides, its capacity of adaptation to different environments than *Vespula*, generally related to warm areas and 'around human shelters, and in cavities provided by items such as farm implements, machinery, trailers, and recreational equipment' (11), should be very much taken into account in other populated, and probably warmer regions of northern Europe, also consider-

ing the possible effects of global warming (9). The direct clinical experience of the members of the Hymenoptera Committee participating in this manuscript is, in contrast to the epidemiological studies published before the year 2000, that there is an increasing presence of *P. dominulus* in different Spanish regions.

In summary, the paper by Monsalve et al. (1) emphasizes on the fact that correctly diagnosing *Vespula/Polistes* sensitization is clue for patients clinically affected by the nowadays present wasps in Southern Europe, and very probably also in other regions in the near future. Any CRD system should consider using both the phospholipases (Ves v 1 and Pol d 1) and the antigen 5s (Ves v 5 and Pol d 5) for a correct diagnosis.

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