

Entomophagy: what about allergies ?

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Introduction

The entomophagy is an alternative food that has become more common in our countries during recent years.

The aim of this study was to identify the potential cross-reactivity between the allergens of shrimps, House Dust Mites (HDM) and crickets (*Gryllodes sigillatus*).

Material & Method

We selected 3 patients (aged 7–18–27 y.o.) on the basis of their positive specific IgE (slgE) results against Der p 10 (from 16.9 to >100 KUA/L) and against Pen a 1 (from 14.3 to > 100 KUA/L), two tropomyosins. Each patient had a diagnosis of both HDM allergy and food allergy to shrimps. We performed a total *Gryllodes sigillatus* protein extraction in order to separate the proteins on the basis of their isoelectric point and on their molecular weight. Afterwards, we performed 1D and 2D Western blot (WB) to determine the molecular allergen sensitization profile of each patient serum to this extract.

Results & Discussion

The 1D WB confirmed the slgE reactivity to a protein around 37 kDa that could be the *Gryllodes*' tropomyosin or the *Gryllodes*' arginine kinase (AK). The 2D WB confirmed for the 3 patients' sera a tropomyosin sensitization (around 37 kDa, pH 3-4) or an AK sensitization (around 37 kDa, pH 6-7). Furthermore, it showed for 1 out of 3 patients a sensitization to a protein around 17,5 kDa, pH 4 that could be troponin C, another described allergenic protein.

Conclusion

Our preliminary results showed IgE cross-reactivities with the *Gryllodes*' tropomyosin or AK in 3 shrimp and HDM allergic patients with positive slgE to Pen a 1 and Der p 10. One patient presented a sensitization to the *Gryllodes*' troponin C, but the identification of this protein should be confirmed by mass spectrometry (LC-MS/MS).