Usefulness of available recombinant molecules for the diagnosis of bee venom allergy

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**Background:** The rApi m 1 was the first molecule available for diagnosing of bee venom allergy. The rApi m 1 sensitivity was first reported 97% by Müller using the Advia system in 2009; several groups later registered unfortunately lower sensitivity using ImmunoCap ranging from 56 to 82%. Recently additional molecules for ImmunoCAP solid-phase system and Immulite liquid-phase system have become available. The aim of our study was to assess the usefulness of these new molecules.

**Method:** 39 bee venom allergic patients with clear history of bee anaphylactic sting-reaction and positivity of skin tests and/or bee venom extract IgE were included in our analysis. Specific IgE to rApi m 1 and rApi 10 were measured by the ImmunoCAP and specific IgE to rApi m 1 and rApi m 2 by the Immulite system in all patients. Sensitivity of all tests was calculated. Then sensitivity of CAP rApi m 1 and Immulite rApi m1 was compared and finally optimal molecule combination was found.

**Results:** Sensitivity of CAP rApi m 1 was 66,6%; Immulite rApi m1 93,3%; rApi m 10 46,6%; and rApi m 10 2 60%. Sensitivity of combination of CAP rApi m 1 + rApi m 10 was 73,3%; Immulite rApi m 1 + rApi m 10 93,3%; CAP or Immulite rApi m 1 + rApi m 2 reached 100%; as well as CAP or Immulite rApi m 1 + rApi m 2 + rApi m 10 100%.

**Conclusion:** Sensitivity of Immulite rApi m 1 is higher than sensitivity of CAP rApi m 1. The rApi m 1 + rApi m 2 represent the optimal molecule combination for the diagnosis of bee venom allergy.