BAT in hymenoptera venom identification

Sample preparation:

- Telephone registration (031 371 8640) for Hymenoptera basophil activation tests (Hymenoptera-BAT) is mandatory.
- Hymenoptera-BAT testing requires > 4ml EDTA whole blood.
- Blood samples must be stored and shipped at 4°C - 25°C. A completed ordering form must be included in the shipment.
- Samples must not be older than 24 hours upon arrival in the laboratory.
- We recommend the following Swiss Postal Service for sample shipment: Swiss Express „Mond“ (guaranteed overnight shipment).

Background Information:

Ambiguities in the diagnosis of allergies against Hymenoptera venom

A correct identification of the causative insect (bee or wasp) in the case of Hymenoptera venom allergies with life-threatening systemic reactions is of primary importance for a successful specific immunotherapy. In approximately 50% of all cases, intra-dermal skin tests and quantification of specific IgE levels lead to contradictory results. Although the anamnesis may be unambiguous, the above-mentioned tests can be double negative or double positive. Such unclear cases inevitably complicate the medical clarification and may even lead to immunotherapies over 5 years with both, bee and wasp, venoms. According to the literature available, Hymenoptera-BAT can be a helpful tool for the identification of the causative insect venom.

Immunotherapy monitoring in Hymenoptera venom allergies

After 5 years of Hymenoptera venom immunotherapy (VIT), treatment efficacy is evaluated in specialized centers by sting provocation with living insects. Currently, only sting provocation provides reliable information about the sufficiency of vaccine protection. In the last few years Hymenoptera-BAT has been evaluated as a reliable alternative to sting provocation. In Hymenoptera-BAT patient basophils are stimulated with
various concentrations of bee and wasp venom. Subsequently, basophil responses against the stimuli are analyzed in terms of their up-regulation of the CD63 degranulation marker. This procedure enables the evaluation of basophil sensitivity, which correlates according to latest data with in vivo Hymenoptera venom tolerance. Due to inter-individual variation, a baseline value prior to the initiation of the immunotherapy has to be determined for each patient. Prospective measured data can then be compared to this prior established baseline value.

References


