Correlation of sting challenge outcome and change in EC50 in basophil activation test (BAT) in bee venom allergic patients after 2-5 years of venom immunotherapy

Oliver Hausmann1,4, Michael Schneider2, Jakob Weber2, Tatjana Pecaric Petkovic3, Carolina Diaz3, Arthur Helbling1,4
1 Department of Rheumatology, Immunology and Allergology, Inselspital, University Hospital, 3010 Bern (CH)
2 BÜHLMANN Laboratories AG, 4124 Schönenbuch (CH), 3 ADR-AC GmbH, Holligenstrasse, 3008 Bern (CH)
4 Div. of Allergology, SpitalNetzBern, Zieglerspital, 3001 Bern (CH)
correspondence: hausmann.allergie@hin.ch

Background

Efficacy of venom immunotherapy (VIT)
No in-vitro surrogate marker for success of VIT
→ Sting challenge recommended with / without systemic reaction (SR)

SR on sting challenge after VIT (5yr.)

Sting challenge recommended

Evaluation template

Results detailed

Reduced bee venom sensitivity in 20/23 pat.

No reduction in BAT sensitivity in SC reactors (3/26)

discrepant results in SC tolerant pat. (3/26)

Conclusions

• Correlation of EC50 ratio of >1.6 with tolerated sting challenge in 20/26 patients

• 3/26 (11.5%) of sting challenge tolerant patients misstratified (BAT specificity 87%)

• No sting challenge reactive patient was missed (BAT sens. 100%)

• Relatively low rate of sting challenge reactors (3/26 pat., 11.5%)

• BAT with bee venom conc.range (EC50) may be a valuable predictive tool for the success of VIT, especially in situations when sting challenges with living insects are not feasible

→ identification of unprotected VIT patients

References


Hypothesis

• Basophil activation test (BAT) is able to identify those bee venom allergic subjects who are not protected under standard VIT (positive sting challenge, SC)

Project Overview

Study Details

• Bee venom allergic patients

• 3.5 logs of allergen concentration

• Study length of 7 years (2007-2013)

• Flow CAST™ Test conditions:
whole blood, IL-3 containing stimulation buffer, 15 min. incubation time, count ≥ 500 basophils.

Statistics

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References


