Case report of hereditary angioedema with anaphylaxis after hornet sting and consequent venom immunotherapy

Hanzlikova J.1, Vachova M.1, Gorcikova J.1, Vlas T.1, Panzner P.1

Institute(s): 1 Medical Faculty Hospital Pilsen, The Faculty of Medicine in Pilsen, Charles University in Prague, Dept. of Immunology and Allergology, Pilsen, Czech Republic

Contact: Jana Hanzlíková, MD, hanzlikova@fnpilzen.cz

Main question
Can be a patient with hereditary angioedema (HAE) treated by venom immunotherapy (VIT)?

In the literature we found no information. The fear that VIT will cause attacks of HAE, nevertheless VIT was started from the vital indication.

Procedure: on the day of application of VIT patient took danazolum 200 mg and cetirizine 10 mg in the morning, otherwise standard procedure of VIT dosing was followed.

During initial phase of VIT no non-standard reaction and no attacks of HAE were observed.

Conclusion
VIT can be used in patients with HAE

Detailed case report

Hereditary angioedema
Attack from 1954 (17 years) - abdominal pain, escalation in pregnancy (21, 22 years): angioedema on the limbs, trunk, face, abdomen, but also on external genitalia.

Frequency 1 per week, solid, without pruritus and erythema, lasted 3 - 5 days. At 1987 first laryngeal edema

Laboratory tests of HAE diagnosis:
C1INH 0.03 - 0.07 g/l (normal 0.15 - 0.35 g/l)
C4 0.03 - 0.1 g/l (normal 0.14 - 0.35 g/l)

Function of C1INH 18 (normal 68 - 100)

Genetic exam.: mutation of gene for C1 INH HAE I. Type (C1INH and C4 under 50%)

Allergy
From year 2000 attacks of bronchial hyperreactivity, eczema, GIT pain after foods, local reaction after insect sting (HAE?, Allergy?)

Prick tests:
- positive reaction on grass, mites
- Insects prick tests:
  - bee (100) 3/7
  - wasp (100) 0/0
  - bee (300) 0/0
  - wasp (300) 0/0
- i.d. test:
  - bee 0.01 i.d. 8/30
  - wasp 0.01 i.d. 6/25

Laboratory tests:
Total IgE 182 (norm. 0 - 200 IU/l)

Specif. IgE (norm. 0 - 0.35 U/ml):
- IgE mites 2.81
- IgE grass 0.752
- IgE eggs 0.644
- IgE peanut 0.728
- IgE wheat 0.748
- IgE rice 0.752
- IgE bee 1.191
- IgE wasp 1.961

Spec. IgE (posit. over 0.35 IU/ml):
- IgE bee 1.811
- IgE wasp 1.361
- rapi m1 0.001
- rves v5 2.3
- rves v1 0.401
- a - CCD 0.001

BASOTEST:
- bee 11.74 (neg.)
- wasp 17.64 (low posit.)

IgG4:
- IgG4/wasp 1.71
- IgG4/rves v5 0.251
- IgG4/rves v1 0.071
- IgG4/bee 0.29

Tryptase 2.6 (normal 0 - 11.4)

Anaphylaxis
From year 2010 - after sting of bee to 10 min. nausea, unable to walk, state "could not stand on her legs", equipped with epinephrine. From 2011 after sting of wasp only local reaction (she used emergency treatment (cetirizine 10mg, danazolum 200mg and prednisolonum 20 mg).

After 3 weeks she received 3 hornet sting (leg, head), she used emergency treatment, but after 30 minutes appeared nausea, generalized erytema, urticaria and pruritus on all over the body, tremor, alternating heat and cold sensation, dyspnoea, dry mouth, heart palpitations, precollaps to collapse. She was hospitalized on intensive care unit, improvement after injection of adrenaline and corticosteroids i. v. Resume: anaphylaxis grade III (Müller).