FIVE THINGS TO KNOW ABOUT ...

Venom anaphylaxis

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1 Fatal venom anaphylaxis is more common in adults than in children

About 3% of adults and 0.8% of children will have a severe systemic hypersensitivity reaction to venom from honeybee, wasp, white-faced hornet, yellow jacket or yellow hornet.[1] Immediate management of anaphylaxis involves prompt intramuscular administration of epinephrine (0.3 mg 1:1000 for adults, 0.15 mg 1:1000 for children < 30 kg; both doses are available in autoinjectors).[2]

2 As many as 20% of patients with anaphylaxis to insect stings have biphasic reactions

The second reaction usually occurs within 10 hours of the sting (range 1–30 h),[3] with the highest risk within the first 4–6 hours. Patients need to be in a monitored setting regardless of their initial response to epinephrine.[3]

3 The diagnosis of venom allergy is made by intradermal or immunoglobulin E testing

All patients with reactions to venom should undergo assessment using intradermal venom administration (sensitivity > 97% at 1 μg/mL) or immunoglobulin E testing in vitro (sensitivity 70%–80%).[4] Testing should be done 4–6 weeks after a sting; earlier testing may give a false-negative result.[4]

4 Long-term management should involve an anaphylaxis action plan

After initial treatment (Appendix 1, www.cmaj.ca/lookup/suppl/doi:10.1503/cmaj.141264/-/DC1), every patient with suspected or confirmed venom anaphylaxis should be given two epinephrine autoinjectors, be provided with resources on insect avoidance and develop an anaphylaxis action plan (see resources). Referral to a clinical immunologist and allergist is recommended.[2]

5 Venom immunotherapy is the only disease-modifying treatment for insect sting anaphylaxis

Immunotherapy involves administering multiple escalating doses of venom to induce an anergic state. A Cochrane review of 6 randomized controlled trials involving 392 patients showed the risk of subsequent systemic reaction after immunotherapy was 2.7%, compared with 39.8% in the control groups receiving placebo (risk ratio 0.10, 95% confidence interval 0.03–0.28).[5] Unfortunately, administrative barriers limit widespread adoption of this therapy.

Resources

- **For physicians:** Stinging insect hypersensitivity practice parameter (www.aaaai.org/Aaaai/media/MediaLibrary/PDF%20Documents/Practice%20and%20Parameters/Insect-hypersensitivity-2011.pdf)
- **For patients:** Canadian Society of Allergy and Clinical Immunology (www.aaia.ca/en/Anaphylaxis_3rd_Edition.pdf); Family Physicians Airways Group of Canada anaphylaxis patient action plan (www.anaphylaxisactionplan.com/English%20Plam.htm)

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