

Suboptimal, inconsistent treatment for anaphylaxis due to unknown cause

December 20 2018



Dr. Moshe Ben-Shoshan, is a pediatric allergist and immunologist at the Research Institute of the McGill University Health Centre (RI-MUHC), and the Montreal Children's Hospital of the MUHC. Credit: McGill University Health Centre

A new Canadian study, led by a team at the Research Institute of the

McGill University Health Centre (RI-MUHC), is shedding light on anaphylaxis due to an unknown trigger (AUT)—an unpredictable and potentially fatal allergic reaction, about which surprisingly little is known.

The study, published in *The Journal of Allergy and Clinical Immunology: In Practice*, followed nearly 4,000 cases of anaphylaxis seen in Canadian emergency departments from 2011 to 2018. Common causes of anaphylaxis include food, medication, insect stings, latex and exercise, but in some episodes no definite cause can be determined. With food anaphylaxis, avoidance of the triggering food is a key principle of management; but with AUT, the possibility of a sudden life-threatening anaphylactic episode could occur at any time.

"In our study, 7.5 percent of the anaphylaxis cases were due to an unknown cause, and we found that the treatment and follow up of AUT were suboptimal and inconsistent both inside and outside of the hospital," says lead researcher Dr. Moshe Ben-Shoshan, a pediatric allergist and immunologist at the Research Institute of the McGill University Health Centre (RI-MUHC), and the Montreal Children's Hospital of the MUHC.

"Specifically, epinephrine was underused and antihistamines were the primary treatment drug for AUT: 46 percent of patients in our study received antihistamines before arriving at the hospital and 55 percent of patients received antihistamines in the hospital emergency department," adds Dr. Ben- Shoshan, who is also an assistant professor of Pediatrics at McGill University.

This research is the first longitudinal, large-scale study to assess the clinical characteristics, treatment, and follow-up management of AUT cases across Canada. The study is part of a larger national project and database called the Cross-Canada Anaphylaxis Registry (C-CARE),

which tracks the rates, triggers and management of anaphylaxis in different provinces and settings across Canada.

Among the study's other findings:

- Nearly one-fifth of patients with AUT were not prescribed an epinephrine autoinjector;
- Adults were less likely to receive an epinephrine autoinjector prescription than children;
- Only 56 percent of patients with AUT were referred to an allergist, most of these were children;
- Of the patients assessed by an allergist, a trigger for their reaction was identified in 38 percent of cases.

"The underuse of epinephrine and the low rates of referral to an allergist, mainly in adults with AUT, highlight the need for clear guidelines and educational programs for diagnosis and management," says study first-author Michelle Le, a medical student at McGill University and an AllerGen trainee.

"The important takeaway from this study is that there are significant discrepancies in treatment and follow up of [patients](#) with AUT that must be addressed in order to ensure prompt and appropriate management of [anaphylaxis](#)."

More information: Michelle Le et al, Emergency Management of Anaphylaxis due to an Unknown Trigger: An 8-year follow-up study in Canada, *The Journal of Allergy and Clinical Immunology: In Practice* (2018). [DOI: 10.1016/j.jaip.2018.11.015](https://doi.org/10.1016/j.jaip.2018.11.015)

Provided by McGill University Health Centre

Citation: Suboptimal, inconsistent treatment for anaphylaxis due to unknown cause (2018, December 20) retrieved 24 April 2024 from <https://medicalxpress.com/news/2018-12-suboptimal-inconsistent-treatment-anaphylaxis-due.html>

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