

Life-saving epinephrine underused during anaphylaxis outside of hospital, study finds

MONTREAL, QC (6 September 2018)

Fewer than half of adults and children experiencing food-induced anaphylaxis use their epinephrine autoinjector (EAI) before being treated at a hospital emergency room, according to a new Canadian study.

“It’s a disappointing reality that epinephrine is seriously underused,” 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 at the Montreal Children’s Hospital, and an assistant professor of Pediatrics at McGill University.

“Our study found that only 41% of patients who had an epinephrine autoinjector with them during an anaphylactic reaction actually used it before arriving at the hospital. Given that death due to anaphylaxis can occur as rapidly as 30 minutes after exposure to food, it is crucial to use epinephrine promptly when available to reduce this risk.”

Almost 600,000 Canadians will experience anaphylaxis in their lifetime. The potentially life-threatening reaction can occur within seconds or minutes of exposure to an allergen which may include food, medications, insect stings or substances such as latex.

[The study](#), published in the *Journal of Allergy and Clinical Immunology: In Practice*, examined 483 cases of food-induced anaphylaxis treated at nine Canadian emergency departments between 2010 and 2017. 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.

“We found that 53% of the patients in our study received antihistamines as a treatment, while 20% of patients did not receive any treatment at all before arriving at the hospital,” says first-author Sofianne Gabrielli, an AllerGen trainee and a research associate at RI-MUHC. “It’s surprising that epinephrine use during a severe allergic reaction is so low: there really is no downside to giving it—epinephrine is extremely safe and it can save your life.”

Among the study’s other findings:

- Teenagers (13-19 years) possessing an EAI at the time of reaction were more likely to use it than younger children or adults over 20 years
- Individuals with severe anaphylaxis were more likely to use an EAI than those with mild or moderate anaphylaxis
- Alberta had the lowest percentage of EAI use among the five provinces represented in the study

“These results underscore the need for greater awareness and education for patients and their caregivers in assessing the signs and symptoms of anaphylaxis and the importance of using epinephrine to treat it”, says Jennifer Gerdts, a study co-author and Executive Director of [Food Allergy Canada](#)—a non-profit charitable organization that educates, supports and advocates for Canadians with food allergies and those who care for them. “However, it’s encouraging to see that teens—who, are considered a more high-risk group for allergic reactions—are more likely to use their EAI appropriately.”

“The important takeaway from this study is that food-allergic individuals, as well as parents, the community, and healthcare professionals, need to recognize that epinephrine should always be the first line of defense when treating anaphylaxis and should not delay in administering an EAI.”

About AllerGen NCE Inc.

[AllerGen NCE Inc.](#), the Allergy, Genes and Environment Network (est. 2004), is a national research network dedicated to improving the quality of life of people suffering from allergic and related immune diseases. Funded by Industry Canada through the federal Networks of Centres of Excellence (NCE) Program, the Network is hosted at McMaster University in Hamilton. Visit <http://allergen-nce.ca> for more information.

About the Research Institute of the MUHC

The Research Institute of the McGill University Health Centre ([RI-MUHC](#)) is a world-renowned biomedical and healthcare research centre. The Institute, which is affiliated with the Faculty of Medicine of McGill University, is the research arm of the McGill University Health Centre (MUHC) – an academic health centre located in Montreal, Canada, that has a mandate to focus on complex care within its community. The RI-MUHC supports over 460 researchers and close to 1,300 research trainees devoted to a broad spectrum of fundamental, clinical and health outcomes research at the Glen and the Montreal General Hospital sites of the MUHC. Its research facilities offer a dynamic multidisciplinary environment that fosters collaboration and leverages discovery aimed at improving the health of individual patients across their lifespan. The RI-MUHC is supported in part by the Fonds de recherche du Québec – Santé (FRQS). rimuhc.ca.

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