



CASE REPORT

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A case of the first documented fire ant anaphylaxis in Canada

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Abstract

The first documented confirmed case of an imported fire ant causing anaphylaxis in Canada is herein reported. In a patient with anaphylaxis to ants a physician in Canada should be aware that an allergic reaction to fire ant is a possibility.

Index case

A 43 year old female presented for allergy assessment in December of 2012 having been bitten by several "red ants" in a Toronto park in July of 2012. Her manifestations included immediate localized swelling at the bite sites followed within minutes by generalized pruritus and presyncope. She was taken to a local emergency and treated with intravenous diphenhydramine, ranitidine, and prednisone. It was unclear what the vitals were at the time. Epinephrine was not given and her swelling took a few days to resolve. Her past medical history was significant for mild intermittent asthma and a morphine anaphylaxis. Her physical exam in December 2012 was unremarkable for any findings to suggest urticaria pigmentosa or dermographism.

At the time of the reaction there were no cofactors of anaphylaxis including alcohol, non steroidal anti-inflammatory use, exercise, or proton pump inhibitor use. There were no confounding medications and no prior history of latex or food allergies. Food was not ingested for 4 hours prior to this. This patient is a traveller to Florida and other southern states in the USA but had not been there for at least 4 months.

The standard of care of skin prick testing to whole body prepared fire ants was performed along with the other five venom containing insects in Canada which includes white faced hornet, yellow jacket, yellow hornet, honey bee, and wasp.

To the investigator's surprise the whole body fire ant commercial extract (ALK 1:100 w/v commercial extract)

was positive on skin prick testing with a 6 mm wheal reaction with the positive control being 4 mm wheal and negative skin prick test being 1 mm. The other venoms of the vespids and aphids flying insects were negative at a concentration up to 1 mcg /mL (ALK commercial extracts). Intradermal testing with fire ant was not done as the skin prick test was clearly positive.

Discussion

Fire ants are endemic to southern and south eastern United States [1] and thus far no previous reports of anaphylaxis to fire ants have been documented in Canada. Once considered simply an outdoor pest limited to a range of a few southern states in the USA, it now appears to be a broader problem with anaphylaxis reported in more northern states [1]. At this time it is unclear the exact mortality rate due to venom from imported fire ants and the extent of this problem in North America.

Several interesting points come out of this fascinating case. It is unclear exactly which factor, be it climate change resulting in warmer winters in Southern Ontario, globalization, or increased trafficking of exotic pets and insects that this patient somehow managed to not only find but have anaphylaxis to imported fire ants. Prior to the winter of 2013 there were no prolonged freezes in Southern Ontario. In fact the presence of fire ants in Canada in multiple provinces and confirmed by Environment Canada has been reported in the *Globe and Mail* going back to at least 2009 [2]. As physicians the local changes to climate and environment are often overlooked. Most allergists do not routinely have commercially prepared fire ant allergen extracts but if this becomes more of a common occurrence in the future certainly this index

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