

Anaphylaxis to deer dander in a child: a case report

David J Amrol, MD; John W Georgitis, MD; and Donnie P Dunagan, MD.

Background: Hypersensitivity to deer dander is rarely reported, with only 26 cases in the literature. Ours is the youngest reported case and the first reported case of anaphylaxis on exposure to a live deer.

Objective: Evaluation of a case of anaphylaxis in a young boy upon exposure to a deer.

Methods and Results: A 4-year-old boy experienced hives, swelling, and shortness of breath requiring epinephrine following a deer exposure. He had one mild reaction 5 days prior to his anaphylaxis with an indirect exposure. A deer dander extract was made from fur supplied by the patient's mother. IgE-mediated reactivity was positive for deer and cattle by both selective skin prick method and RAST results.

Conclusion: Hypersensitivity to wild animals can lead to life threatening anaphylaxis, even in children. Passive transfer of antigen may occur, but needs further investigation.

Ann Allergy Asthma Immunol 2000;85:372-373.

INTRODUCTION

Interest in deer dander hypersensitivity has increased, yet is rarely reported with only 26 cases in the literature.¹⁻⁵ There have been no cases of children under the age of 15, and our patient is the first documented pediatric case of anaphylaxis upon exposure to live deer. Deer dander sensitization is usually considered as a consequence of occupational or recreational exposure in farmers and hunters, respectively. Antigenic elements have been found in the pelts, urine, and serum of deer, with pelt dander being the most antigenic.² RAST inhibition has shown antigenic cross reactivity among deer, elk, cat, cattle and horse.²⁻⁴ The most common symptoms with deer dander hypersensitivity include contact urticaria, conjunctivitis, and respiratory symptoms following short, intense exposure to deer.

Wake Forest University School of Medicine, Winston-Salem, North Carolina.

Received for publication January 22, 2000.

Accepted for publication in received form March 22, 2000.

CASE

A 4-year-old boy experienced hives, swelling, and shortness of breath within minutes after exposure to a pet deer kept in his friend's house. He had prior exposure via deer trophies within his home. Five days prior to his anaphylactic event, he experienced mild conjunctivitis when he ate dinner with his friend. His anaphylaxis then occurred when he visited the boy's house and had played 5 to 10 minutes with the deer. He developed severe dyspnea and wheezing that prompted his mother to call EMS. An ambulance located nearby administered epinephrine and transported him to a local emergency department. He then re-

Table 1. Skin Testing and RAST Results

	Skin Prick Testing	RAST IgE Values
Deer	2+	7101
Cattle	3+	14207
Dog	0	
Cat	0	
Saline	0	
Histamine	2+	

Reference equivocal values for this RAST laboratory are 751-1600.

ceived therapy with systemic corticosteroids and diphenhydramine and was discharged home in stable condition.

Three days later in the clinic, physical examination showed a young male appearing well, remarkable only for mild allergic shiners and injected conjunctiva. There was no significant past medical history nor history of atopy.

METHODS

Selective skin prick testing was performed to deer dander extract along with histamine, saline, and other animal antigens. Deer dander extract was made by mixing 1mg of deer fur and dander supplied by his mother with 5 mL of normal saline. IgE-mediated reactivity was positive by prick method for both deer and cattle. The deer extract produced no reaction in five control subjects. RAST were done to deer and cattle (table 1). Allergy Testing Laboratory (Gainesville, Florida) performed the commercial immunoassay.

CONCLUSION

Wild animal dander should be considered for potential causes of allergic reactions. This case demonstrates that deer dander hypersensitivity can occur in children and can even present as anaphylaxis. As opposed to the usual occupational or recreational exposure, deer dander can be an indoor allergen. It is unknown whether the boy's symptoms 5 days prior to his anaphylaxis were caused by deer dander present on his friend's clothing or another antigen, but passive exposure is a possibility.

REFERENCES

1. Munro-Ashman D, Frankland A. Sensitivity to deer scurf. Acta Allergologica 1963;18:169-169.

-
2. Gillespie D, Dahlberg M, Yunginger J. Inhalant allergy to wild animals (deer and elk). *Ann Allergy* 1985;55:122–125.
 3. Spitzauer S, Valenta R, Muhl S, et al. Characterization of allergens from deer: cross reactivity with allergens from cow dander. *Clin Exp Allergy* 1997;27(2):196–200.
 4. Nahm D, Park J, Hong C. Occupational asthma due to deer dander. *Ann Allergy* 1996;76:423–426.
 5. Huwyler T, Wuthrich B. A case of fallow deer allergy. Cross reactivity between fallow deer and horse allergy. *Allergy* 1992;18:168–169.

Request reprint should be addressed to:
David J. Amrol, MD
Department of Internal Medicine
Wake Forest University Baptist Medical Center
Winston-Salem, Nc 27157