

Adult onset grape hypersensitivity causing life threatening anaphylaxis

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Background: Adverse reactions to foods are encountered much less frequently in adults than in the children. Adult onset hypersensitivity to grapes has not been previously reported.

Objective: Evaluation of a case of anaphylaxis that occurred as a result of the consumption of white grapes (*Vitis vinifera*).

Methods and Results: A 28-year-old woman experienced generalized urticaria, facial/oropharyngeal angioedema, and dizziness after eating a bunch of white grapes. She was treated in an emergency room for anaphylaxis. Previously, she had experienced two similar episodes after eating white grapes. The grape prick skin tests were strongly positive forming a pseudopod type reaction. The total serum IgE was 1918 ng/mL. The grape-specific serum IgE was weakly positive by the modified RAST and negative in the Pharmacia-Upjohn Cap System.

Conclusion: Hypersensitivity to a commonly consumed fruit such as grapes can develop late in life causing a near-fatal anaphylaxis.

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INTRODUCTION

Hypersensitivity reactions to foods are less prevalent in adults than in children, with approximately 2% of adults and 8% of children experiencing an allergy to a cross-section of foods.¹⁻³ Fish has been shown to be the most common food that causes hypersensitivity reactions in the adult population.⁴ Here we report on a case of anaphylaxis from the consumption of white grapes, a frequently consumed fruit.

A 28-year-old woman presented with generalized urticaria, facial/oropharyngeal angioedema, and dizziness after eating a bunch of white grapes. She became dyspneic and hypotensive (blood pressure, 60/43; pulse 128/min; and respiratory rate, 28/min) requiring IV fluid resuscitation, epinephrine, and diphenhydramine in an emergency room. A few months prior she had

experienced two episodes of generalized urticaria, angioedema, and dyspnea after eating white grapes. She required diphenhydramine during both episodes and the second time had an Aveeno bath since it took longer for the reaction to dissipate. Except for mild hand eczema and a history of occupational hair dye allergy, she has no past history of rhinitis, asthma, or food allergy. She had eaten grapes all her life without any problem except a cough on a few occasions.

Prick skin tests were performed using two different lots of grape (*Vitis vinifera*) extract (Greer Laboratory, Lenoir, NC) on two separate occasions

in duplicate. The skin tests were strongly positive with a 10-mm wheal and 14-mm erythema above the saline control forming a pseudopod type reaction (Table 1). The histamine-positive control reaction faded within a half hour while the grape-induced skin reactions remained for 3 hours. The same grape skin test reagents produced negative reactions on the skin of a nonatopic and atopic but not food-allergic control subjects. The subject's total serum IgE was 1,918 ng/mL (>99 percentile for non-atopics). The grape-specific serum IgE was weakly positive (class I) by the modified RAST and negative in the less sensitive but more specific Pharmacia-Upjohn CAP system.

The history of recurrent generalized urticaria, angioedema, and anaphylaxis upon grape ingestion with a strong positive grape skin test and equivocal serum grape-specific IgE support the diagnosis of grape hypersensitivity. Adult onset food allergic reactions are uncommon and an allergic reaction to grape components has not been reported. This case illustrates that a potential life threatening anaphylaxis from grape hypersensitivity can develop late in life.

Table 1. Allergy Skin Prick Tests*

Subject	Extract/Control	Wheal (mm)	Erythema (mm)
Patient	Histamine	5	8
	Diluent	0	0
	Grape-1	10 (pseudopods)	14
	Grape-2	8	12
Atopic control	Grape-1	0	0
	Grape-2	0	0
Non-atopic control	Grape-1	0	0
	Grape-2	0	0

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* Grape-1 and grape-2 are two different lots of grape extracts from Greer Laboratory, Lenoir, NC. The grape extracts were undiluted at 15 μ g/mL.

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