

No Poinsettia this Christmas

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Abstract: Poinsettia is one of the most delightful decorations during the Christmas season. Natural rubber latex and poinsettia share some common allergen proteins. Hence, people with latex allergy may develop cross-reactivity with poinsettia. We report the case of a 50-year-old white female with a history of latex allergy, who developed a skin rash due to exposure to the poinsettia plant. The patient was admitted to the hospital for evaluation of near syncope. Her diagnostic workup was normal. She received a poinsettia plant from a friend during hospitalization. Because of her latex allergy, we carried out an extensive research of literature which revealed a cross-reactivity between latex allergy and poinsettia. The rash responded well to systemic antihistaminic treatment and removal of the plant from the room.

Key Words: latex allergy, poinsettia plant, latex allergen proteins

Poinsettia, a native Mexican ornamental plant, is a very popular and delightful holiday plant. It is named after Colonel Joel Roberts Poinsett of the United States army. He was the first ambassador to Mexico and brought the plant to the United States.¹ It is the most common flowering potted plant sold in USA with over 70 million plants sold each year.

Latex is derived from rubber trees. Reactions to latex can be caused by allergic or nonallergic hypersensitivity. Symptoms of latex allergy include irritant contact dermatitis, which is of the nonimmune type. Immune type reactions include immediate hypersensitivity (type I) or delayed hypersensitivity (type IV).²

There is some cross-reactivity between the latex derived from the poinsettia plant and the natural rubber latex.³ We are reporting a case of latex allergy and cross reactivity to poinsettia.

Case Report

A 50-year-old white female with a history of latex allergy was admitted to the Baroness Erlanger Hospital of the University of Tennessee College of Medicine at Chattanooga during the second week of December 2004, for evaluation of near syncope. Diagnostic workup for syncope was negative. Because of her known history of latex allergy, she was kept in a latex-free environment throughout her hospitalization. However, she developed a macular rash all over on her body, which was more prominent on the right upper extremity during her stay. There was no history of shortness of breath, wheezing or runny nose. A thorough investigation was done to identify the cause of her rash with special attention to rule out any accidental exposure to latex. We noticed that one of her friends had brought her a big poinsettia plant. The plant was kept on the right side of her bed. She had to lean against the plant whenever she reached for the telephone. Parenteral antihistamine relieved the itching; the rash resolved completely after the plant was removed.

The patient was provided with the information about latex allergy and its cross-reactivity and also given a medical alert bracelet regarding her latex allergy.

Discussion

Latex allergy, first recognized in the 1970s, has been a major health concern, especially in the work place. An in-

Key Points

- Latex allergy is a major health concern in the work place.
- Poinsettia (*Euphorbia pulcherrima*) belongs to the same plant family as natural rubber latex (*Hevea Brasiliensis*). Thus, people with latex allergy have a tendency to develop cross-sensitivity with the poinsettia plant.
- There are two latex allergen proteins that are common to poinsettia and latex.
- The symptoms of latex allergy vary from immediate hypersensitivity (type I), allergic contact dermatitis (type IV), or irritant contact dermatitis.

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This manuscript was prepared solely by the authors listed. The text and literature review was done by the primary author with input, modifications and critical review by the secondary author.

Accepted January 16, 2006.

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0038-4348/0-2000/9900-0772

crease in the incidence of latex protein allergy occurred in the late 1980s due to the implementation of “universal precautions,” which caused a dramatic rise in the manufacture of latex gloves.² The number of individuals with latex allergy has decreased since the mid-1990s due to the availability of nonlatex gloves or powder-free gloves.⁴

Eight percent of healthcare workers have latex allergy. There were more than 1,000 reports of latex allergy, including 15 deaths, during the time period between 1988 to 1992.^{2,5} Increased incidence of latex allergy is seen in children with spina bifida and other neural tube defects and in those with urogenital abnormalities.²

Several vegetables, such as potatoes, avocados, celery and tomatoes, share cross-reactivity with latex. Fruits like bananas, apples, melons, figs, kiwi and papayas are also known to be associated with latex cross-reactivity.^{6,7}

Researchers at the Medical College of Georgia demonstrated in their studies that 40% of individuals with latex allergy are allergic to poinsettia. This is because latex and poinsettia share several proteins. They found IgE antibodies to poinsettia in the blood samples of people with latex allergy. By means of special tests like gel electrophoresis, immunoblot and immunoblot inhibition, two proteins called cross-reactive allergens were identified. These are major and minor latex allergen proteins, Hev b 6.01 and Hev b10, respectively.³

Limited published case reports are available on latex allergy and cross-reactivity with poinsettia. This may be due to the fact that with improved technology of manufacturing of latex gloves, latex allergy has been markedly reduced, thus making cross-reactivity to poinsettia minimal. One documented case discusses bronchial asthma induced by exposure

to the poinsettia plant in a 6-year-old child. He had a 20% decrease in Forced Expiratory Volume 1 with bronchial challenge to the poinsettia extract.⁸

Conclusion

This case emphasizes the importance of inquiring about latex allergy, especially in high risk individuals, and recognizing the cross-reactivity of latex allergy with other common foods and plants. It also stresses the importance of patient education, awareness and close monitoring of the environment in people with latex allergy.

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All serious daring starts from within.

—Eudora Welty