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## Case report

# Occupational allergy caused by Peruvian lily (*Alstroemeria*)

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**Background:** Allergic contact dermatitis to *Alstroemeria* has been well documented; however, occupational allergy to this decorative flower has never been reported in the literature.

**Objective:** We describe a florist with complaints of a sense of throat tightness, allergic rhinoconjunctivitis, urticaria, and facial angioedema attributable to the handling of this popular flower.

**Methods:** An allergy skin testing by the puncture technique and a challenge test are performed in a private office. A staff member is used as a control for the skin testing. Main outcome measures are the subject's clinical symptoms.

**Results:** The allergy skin testing reveals positive response to *Alstroemeria* (Peruvian lily), but negative to Stargazer lily, solidago, and few other flower extracts. In the challenge test, the subject develops conjunctival injection, postnasal drip with nasal congestion, and cough.

**Conclusions:** This is the first report of a type I allergic reaction to *Alstroemeria* and illustrate the ease of in-office performance of skin testing and challenge to flowering plants.

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## INTRODUCTION

Allergic contact dermatitis to *Alstroemeria* has been well documented; however, occupational allergy to this decorative flower has never been reported in the literature. We describe a florist with complaints of a sense of throat tightness, allergic rhinoconjunctivitis, urticaria, and facial angioedema attributable to the handling of this popular flower.

The patient is a 34-year-old florist with a previous history of perennial allergic rhinitis during childhood with no symptoms for more than 15 years, otherwise in good health until a year before consultation. He stated that without any significant changes in environment or ingestants, he developed at least 15 episodes of conjunctival pruritus, nasal congestion with clear

rhinorrhea, throat irritation, and on a few occasions, throat tightness with dysphonia, and facial urticaria with or without angioedema. On several occasions he experienced the above symptoms for 1 to 4 hours after removing the stamen of various flowers.

Symptoms are usually relieved with over-the-counter H<sub>1</sub>-antagonist therapy. On two occasions, he was treated at a local emergency room because of the sense of severe throat tightness. In both instances, he received epinephrine, H<sub>1</sub>-antagonist therapy, and a steroid taper regimen with quick resolution. During his last emergency room visit,  $\beta$ -agonist nebulizer therapy was given for wheezing.

On physical examination at presentation, he was in no respiratory distress, but conjunctiva were slightly injected. There was clear rhinorrhea. Neither audible wheezing nor prolonged expiratory phase was appreciated. However, he did manifest der-

matographism upon lightly stroking his skin. Spirometry revealed forced expiratory volume in 1 second of 91% predicted value with normal forced expiratory volume in 1 second/forced vital capacity ratio. Inspiratory loops did not show any truncation or scalloping.

Allergy skin testing by the puncture technique revealed positive response to *Alstroemeria* (Peruvian lily), but negative to Stargazer lily, solidago, and few other flower extracts. The 25% (wt/vol) extracts are freshly prepared before the testing by mixing pure pollen from the flowers with phosphate-buffered saline solution. After a 10-minute centrifugation at 2,000 g, the supernatant was filtered. A staff member was used as a control for the skin testing to rule out any nonspecific reaction to the extracts.

A challenge test was then performed in the office. He was first instructed to handle the Peruvian lily in the usual fashion and then to touch the infraorbital region. No reaction was noted after 15 minutes. He then touched the areas near his conjunctiva. Within 5 minutes, he developed conjunctival injection, postnasal drip with nasal congestion, and began to cough; however, there was no sign of airway obstruction. He did develop mild facial angioedema. He was given H<sub>1</sub>-antagonist therapy, diphenhydramine 50 mg, prednisone 20 mg, and olopatadine eye drops. He was then observed for 4 hours with complete symptomatic resolution without any further sequelae.

He was advised to avoid *Alstroemeria* and other lilies with a 3-month followup at which time he denied any further episodes. In addition, he was given an EpiPen (Dey, Napa, CA) with

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instruction on its proper use and indications for use.

#### COMMENT

*Alstroemeria*, also known as the Peruvian lily or St. Martin's flower, was named after Klas Alstroemer who introduced this long-lasting flower into cultivation in Europe in 1754.<sup>1</sup> As it has become popular in flower arrangements in recent years, numerous reports have demonstrated its potential to cause allergic contact dermatitis,<sup>2-7</sup> but no documented type I allergic reaction has been reported. In general, flowers are not considered as allergens because they are not self-pollinating; however, 13 different flowers causing type I allergic reaction have been described. In addition, de Jong et al<sup>8</sup> recently reported extensive cross-sensitization among different members of flower families and demonstrated that patients

who had complaints caused by the handling of only one or two different flowers are usually sensitive to other flowers within the same flower family. This case is the first report of a type I allergic reaction to *Alstroemeria* and highlights the ease of in-office performance of skin testing and challenge to flowering plants.

#### REFERENCES

1. McGovern TW, Barkley TM. Botanical briefs: Peruvian lily—*Alstroemeria* (L.) spp. *Cutis* 1999;63:137–138.
2. McGovern TW. *Alstroemeria* L. (Peruvian lily). *Am J Contact Dermat* 1999;10:172–176.
3. van der Mei IA, de Boer EM, Bruynzeel DP. Contact dermatitis in *Alstroemeria* workers. *Occup Med* 1998;48:397–404.
4. Apted JH. Contact dermatitis due to *Alstroemeria* (Peruvian lily). *Australas J Dermatol* 1990;31:111–113.
5. Adams RM, Daily AD, Brancaccio RR, et al. *Alstroemeria*. A new and potent allergen for florists. *Dermatol Clin* 1990;8:73–76.
6. Marks JG Jr. Allergic contact dermatitis to *Alstroemeria*. *Arch Dermatol* 1988;124:914–916.
7. Santucci B, Picardo M, Iavarone C, Trogolo C. Contact dermatitis to *Alstroemeria*. *Contact Dermatitis* 1985;12:215–219.
8. de Jong NW, Vermeulen AM, Gerth van Wijk R, de Groot H. Occupational allergy caused by flowers. *Allergy* 1998;53:204–209.

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