

BRIEF REPORT

Pediatric “pet consort dermatitis”—Allergic contact dermatitis from transfer of bronopol from a pet cat

Abstract

Consort dermatitis refers to an allergic contact dermatitis caused by transfer from an intimate contact to a sensitized patient. Although close contact with other humans most commonly provokes consort dermatitis, pets have been the source in a minority of cases. We present a unique case of transfer dermatitis from a patient's cat litter to her forearms. Pediatric dermatologists should be aware of the possibility of consort or “transfer” allergic contact dermatitis from pets.

1 | INTRODUCTION

The prevalence of allergic contact dermatitis (ACD) is higher in children than previously recognized.¹ Consort dermatitis refers to an allergic contact dermatitis caused by transfer from an intimate contact to a sensitized patient.² Although close contact with other humans most commonly provokes consort dermatitis, pets have been the source in a minority of cases.³ Cat litter has been reported to cause ACD in adults.⁴

2 | CASE REPORT

A 16-year-old girl with a history of childhood asthma and allergic rhinitis presented to our dermatology clinic with a 1-year history of a pruritic, eczematous eruption of the flexor forearms, sparing her hands. The rash was initially managed with hydrocortisone, without significant improvement. Symptoms improved with betamethasone valerate and oral prednisone tapers. Because of the localized distribution, screening patch testing using the TRUE Test (Smartpractice, Phoenix, AZ) demonstrated a 2+ reaction to 2-bromo-2-nitropropane-1,3-diol (bronopol) at 96 hours. Bronopol and other formaldehyde cross-reactors were not identified in any personal care products or prescription medications after thorough review. The patient then remembered that she had acquired a cat soon before the dermatitis started and that she lay with her cat resting on her forearms every night, corresponding to her areas of dermatitis. Bronopol was found to be an ingredient in the family cat litter, and symptoms had resolved at clinical follow-up with avoidance.

3 | DISCUSSION

Consort dermatitis has been most readily identified with cosmetics, such as fragrances and hair dyes,² and topical medicines. In children, consort dermatitis has been described with transfer of mothers' cosmetics to fragrance-allergic children, even causing severe facial dermatitis in three infants with atopic dermatitis.⁵ Cat-specific immunoglobulin (IgE) reactivity is high in patients with severe atopic dermatitis, but there is no reproducible correlation between severity of atopic dermatitis and cat allergen skin prick test. Nevertheless, patients and parents are often concerned that pet exposure may cause IgE-mediated worsening of atopic skin disease. We present a unique case of transfer ACD from a patient's cat litter to her forearms. Dermatologists should be aware of the possibility of transfer ACD from pets when assessing the relevance of contact allergy.

CONFLICT OF INTEREST

D. Hamann is the son of the owner of SmartPractice, a company that manufactures and sells patch test supplies. The remaining authors have no conflict of interests to declare.

Keywords

allergic contact dermatitis, consort dermatitis, transfer dermatitis, pet-associated dermatitis, patch testing

ORCID

Dathan Hamann  <http://orcid.org/0000-0003-2052-3725>

Dathan Hamann MD¹ 

Alyson Ridpath DO²

Esteban Fernandez Faith MD^{1,3}

¹Division of Dermatology, Department of Medicine, The Ohio State University, Columbus, Ohio, USA

²Division of Dermatology, Ohio Health Riverside Hospital, Columbus, Ohio, USA

³Division of Pediatric Dermatology, Nationwide Children's Hospital, Columbus, Ohio, USA

Correspondence

Dathan Hamann, MD, Division of Dermatology, Department of
Medicine, The Ohio State University, Columbus, OH, USA.
Email: dathanhamann@gmail.com

REFERENCES

1. Jacob SE, McGowan M, Silverberg NB, et al. Pediatric contact dermatitis registry data on contact allergy in children with atopic dermatitis. *JAMA Dermatol*. 2017;153:765-770.
2. Veysey EC, Burge S, Cooper S. Consort contact dermatitis to para-phenylenediamine, with an unusual clinical presentation of tumid plaques. *Contact Dermatitis*. 2007;56:366-367.
3. Zhang AJ, Warshaw EM. Pet consort dermatitis: the importance of asking about pets. *Dermatitis*. 2018;29:45-46.
4. Sullenbarger JW, Hensley B, Travers JB. Kitty litter dermatitis from-bromo-2-nitropropane-1,3-diol. *Skinmed*. 2017;15:389-390.
5. Nijhawan RI, Jacob SE. Connubial dermatitis revisited: mother-to-child contact dermatitis. *Dermatitis*. 2009;20:55-56.