

3. Maridet C, Atge B, Amici JM, et al. The electronic cigarette: the new source of nickel contact allergy of the 21st century? *Contact Dermatitis* 2015;73(1):49–50.
4. Ormerod E, Stone N. Contact allergy and electronic cigarettes (and eyelash curlers). *Clin Exp Dermatol* 2017;42(6):682–683.

Patch Testing in Vulvar Allergic Contact Dermatitis

To the Editor:

Allergic contact dermatitis (ACD) frequently complicates vulvar dermatoses such as lichen sclerosus. This creates a clinical challenge, often leading to delays in diagnosis.¹ Delayed diagnosis of ACD can severely affect quality of life for women who already suffer from a debilitating vulvar disease.²

We conducted a retrospective chart analysis of 25 patients (mean age, 50 years; range, 5–80 years) referred to the UCSF Patch Test Clinic for vulvar itching, irritation, and/or burning from the gynecologic dermatology clinic. Our aim was to report the prevalence of vulvar ACD, concomitant vulvar diseases, and relevant patch test results in this cohort. Of the 25 patients who were patch tested, vulvar ACD was diagnosed in 16 of those patients (~64%).

Furthermore, 56% of patients in our cohort who were diagnosed as having vulvar ACD had a concomitant vulvar diagnosis, with lichen sclerosus (diagnosed clinically and by biopsy) being the most common, followed by lichen simplex chronicus, active atopic dermatitis, condyloma acuminatum, psoriasis, and Paget disease, in order of prevalence. The average duration of symptoms reported was 9 years, with a range from 2 months to 30 years. Initially, we had hypothesized that a longer duration of disease would be associated with higher rates of ACD. However, given the current data, there was a nonsignificant difference in sensitization rates for patients with symptom duration greater than 5 years versus less than 5 years (64% vs 55%, $P = 0.07$). Nine of the 16 vulvar ACD patients had other, nonvulvar, sites of involvement, with the perianal area being the second most common site. Overall, 54% (50/92) of the total contact allergens detected were deemed relevant (Table 1). Similar to other studies, fragrances were the most common allergens, accounting for 41% of all positives followed by preservatives.^{3,4} Methylisothiazolinone was a relevant positive patch test allergen in 2 patients. This commonly used preservative, when positive on patch testing, is very often found to be relevant. Interestingly, we identified 1 relevant reaction to budesonide. Contact allergy to

topical steroids is not infrequent.⁵ This is an important consideration in this patient cohort because topical steroids are the mainstay of treatment for many vulvar dermatoses, such as lichen sclerosus and others noted previously.

Prompt and accurate diagnosis of vulvar ACD in patients with a preexisting vulvar disease is important because their overall symptoms will not improve until this diagnosis is made and appropriately managed. Our results indicate that patch testing should be considered in patients with nonallergic vulvar disease and, in particular, those who are not responding to standard therapy. Preemptive avoidance of fragrance-containing products is advised in any patient with vulvar pruritus and/or irritation, given the commonness of this group of allergens in our analysis. The clinical discussion should involve a thorough review of all products that the patient is using, including botanicals, to ensure true avoidance of the culprit allergen.

Megha K. Trivedi, BS, BA
Department of Dermatology
University of California
San Francisco

Carina M. Woodruff, MD
Department of Dermatology
University of California
San Francisco

Rachel Kornik, MD
Department of Dermatology
University of Wisconsin
Madison

Nina Botto, MD
Department of Dermatology
University of California
San Francisco
Nina.Botto@ucsf.edu

REFERENCES

1. Chan MP, Zimarowski MJ. Vulvar dermatoses: a histopathologic review and classification of 183 cases. *J Cutan Pathol* 2015;42(8):510–518.
2. Margesson LJ. Vulvar disease pearls. *Dermatol Clin* 2006;24(2):145–155.
3. O’Gorman SM, Torgerson RR. Allergic contact dermatitis of the vulva. *Dermatitis* 2013;24(2):64–72.
4. Utaş S, Ferahbaş A, Yıldız S. Patients with vulvar pruritus: patch test results. *Contact Dermatitis* 2008;58(5):296–298.
5. Dumycz K, Osinka K, Feleszko W. Contact allergens in topical corticosteroid vehicles: analysis of product composition. *Contact Dermatitis* 2017;76(4):254–255.

The authors have no funding or conflicts of interest to declare.

DOI: 10.1097/DER.0000000000000345

© 2018 American Contact Dermatitis Society. All Rights Reserved.

TABLE 1. Relevant Patch Test Allergens

Category (Number of Positives)	Allergen	Positives*
Fragrances (17)	Hydroperoxide of linalool	3
	Fragrance mix I	2
	Fragrance mix II	2
	Hydroperoxide of limonene	2
	Hydroxycitronellal	2
	Cinnamic aldehyde	1
	Farnesol	1
	Jasmine	1
	Lylal (hydroxymethylpentylcyclohexenecarboxaldehyde)	1
	Oak moss	1
	Perfume mix	1
Metals (9)	Nickel/nickel sulfate hexahydrate	6
	Cobalt/cobalt chloride hexahydrate	3
Preservatives (8)	Methylisothiazolinone	2
	Sodium metabisulfite	2
	Formaldehyde	2
	Propylene glycol	1
	Iodopropynylbutyl carbamate	1
Surfactants (3)	Decyl glucoside	2
	Dimethylaminopropylamine	1
Medicaments (2)	Budesonide	1
	Bacitracin	1
Resin (1)	Colophony	1
Plants (1)	Sesquiterpene lactone	1

*Definite, probable, or possible relevance.

Trends in Eyelid Dermatitis

To the Editor:

Eyelid dermatitis is uncomfortable for patients and can cause a diagnostic conundrum for clinicians. The etiology of cases may be multifactorial, and as such, arriving at the appropriate diagnosis can be challenging.¹⁻³ To better characterize trends in clinical presentation, we conducted a retrospective review of all cases of eyelid dermatitis for patients who were patch tested at the University of North Carolina at Chapel Hill Dermatology and Skin Cancer Center between 2008 and 2015.

Using the North American Standard Series, T.R.U.E. Test, or a smaller, more personalized series based on specific exposures, patch tests were placed in clinic and patients returned at 48 and 96 hours for evaluation. Presumed cosmetic allergens were also placed to evaluate reactivity to specific products.

Of the 268 patients who were patch tested, 68 (22.1%) experienced eyelid dermatitis and were analyzed in this study. Only 22.0% of the patients with eyelid dermatitis had it exclusively on the eyelids, whereas others also had involvement of the head and neck (30.9%) or elsewhere on the body (47.1%). Patch testing was positive in 40 (58.8%) of the patients with eyelid dermatitis, with 9 of the positive patch tests considered noncontributory. Although allergic contact dermatitis (ACD) was the most prevalent diagnosis (48.5%), atopic dermatitis (26%) and irritant dermatitis (17.6%) also affected a sizable portion of our study population.

Trends in laterality of eyelid dermatitis showed that ACD was the only diagnosis noted in our patients with unilateral symptoms. In bilateral disease, ACD, atopic dermatitis, and irritant dermatitis affected 47%, 27.3%, and 18.2% of the population, respectively. Most patients experienced bilateral upper and lower eyelid involvement (66.2%), and none of the patients experienced unilateral lower eyelid involvement.

Metals, including gold and nickel, represent 17.5% and 15% of positive patch tests, respectively, followed by balsam

The authors have no funding or conflicts of interest to declare.

DOI: 10.1097/DER.0000000000000338

© 2018 American Contact Dermatitis Society. All Rights Reserved.