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REFERENCES

1. Corazza M, Massieri LT, Virgili A. Doubtful value of patch testing for suspected contact allergy to ophthalmic products. *Acta Derm Venereol* 2005;85:70–71.
2. Herbst RA, Maibach HI. Contact allergy caused by allergy to ophthalmics: an update. *Contact Dermatitis* 1992;27:335–336.
3. Moreno-Ancillo A, Muñoz-Robles ML, Cabañas R, et al. Allergic contact reactions due to phenylephrine hydrochloride in eyedrops. *Ann Allergy Asthma Immunol* 1997;78:569–572.
4. Möller Ch, Björkstén B, Nilsson G, et al. The precision of the conjunctival provocation test. *Allergy* 1984;39:37.

Occupational Allergic Contact Dermatitis From Potassium Metabisulfite

To the Editor:

Potassium metabisulfite (PMS) is a common additive in the winemaking industry. When added to the wine, a sulfur dioxide gas forms, which prevents yeast and bacteria proliferation. In addition, it is a strong antioxidant that allows less oxidized

wines, with better color and flavor. Occupational allergic contact dermatitis caused by other sulfites such as sodium metabisulfite is relatively common, mainly related to food, pharmaceutical, cosmetic, and photographic industries,^{1,2} but from PMS, it has been rarely observed.

A 26-year-old woman had been working in the wine-making industry for years. In the last season, 1 of her tasks was to prepare a solution of PMS 10% water. Sometimes, she negligently made it with her hands without protection with rubber gloves. Potassium metabisulfite was used at different stages (when the grapes enter the wine cellar, at the end of alcoholic fermentation, and when cleaning the wooden casks). After several weeks, she developed an itchy vesicular eczematous reaction on her both hands and forearms. The dermatitis had relapses coinciding with the use of the dilution. Cessation of the work resulted in a resolution of the dermatitis. The patient had no previous history of eczema or problems with the intake of beverages and foods containing sulfites.

Her eczema was cleared when the patient came to us. She was patch tested on the upper back with Curatest (Lohmann & Rauscher, Rengsdorf, Germany) on Hypafix (Smith & Nephew, Hamburg, Germany) to the standard series of the Spanish Contact Dermatitis and Skin Allergy Research Group (GEIDAC) of Chemotechnique Diagnostics (Vellinge, Sweden), an agriculture series, sodium and potassium metabisulfite (1% petrolatum). Readings were performed at day 2 and day 4 and scored according to the standards of the International Contact Dermatitis Research Group. Skin prick testing with aeroallergens, grape, and yeast was performed. Her only positive patch test reaction was to PMS at day 2 (++) and day 4 (+++). Prick tests were negative. Ten controls that were tested with PMS were all patch test negative.

Sulfites have been used in winemaking for centuries as a preservative, PMS being preferred because it does not contribute sodium to the diet. Exposure to sulfites can induce a variety of clinical effects in sensitive individuals. They are well recognized as a cause of bronchospasm in patients with asthma, but there also have been reported cases of dermatitis, urticaria, flushing, hypotension, abdominal pain, diarrhea, anaphylactic shock, and death.³ In particular, occupational allergic contact dermatitis to PMS has been rarely reported. In 1968, Nater⁴ described the case of a woman with hand dermatitis due to PMS exposure while working in a pharmaceutical industry. More recently, in 2009, Stingeni et al⁵ reported a case of occupational airborne contact dermatitis in a wine maker exposed to PMS during the grape harvest and grape fermentation period. We also found 2 cases of occupational contact dermatitis to sulfites in wine workers in 2 studies that investigated the prevalence of positive patch test reactions to sodium metabisulfite in large series of patients with

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dermatitis.^{1,2} However, the type of sulfite used by these wine workers was not detailed in these studies and cross-reactivity has been found among different sulfites in patch tests.^{1,5}

In our patient, the relevance of the positive patch test to PMS was clear as a case of occupational exposure. Airborne allergic dermatitis was not considered because of the absence of lesions in exposed areas such as her face or neck. We conclude that the winemaking industry represents a risk for the development of occupational contact dermatitis to PMS and recommend that patch testing with the appropriate sulfite be routinely performed in wine makers who present with dermatitis.

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REFERENCES

1. Vena GA, Foti C, Angelini G. Sulfite contact allergy. *Contact Dermatitis* 1994;31:172–175.
2. García-Gavín J, Parente J, Goossens A. Allergic contact dermatitis caused by sodium metabisulfite: a challenging allergen: a case series and literature review. *Contact Dermatitis* 2012;67:260–269.
3. Vally H, Misso NL, Madan V. Clinical effects of sulphite additives. *Clin Exp Allergy* 2009;39:1643–1651.
4. Nater JP. Allergic contact dermatitis caused by potassium metabisulfite. *Dermatologica* 1968;136:477–478.
5. Stingeni L, Bianchi L, Lisi P. Occupational airborne allergic contact dermatitis from potassium metabisulfite. *Contact Dermatitis* 2009;60:52–53.

Paraphenylenediamine: An Old Allergen With Increasing Utilization and Public Health Implications

To the Editor:

We read with interest the recent article by Verma et al demonstrating a novel presentation of prurigo nodularis-like paraphenylenediamine (PPD) allergy and wanted to respond to the statement indicating that “Paraphenylenediamine [is a] recently detected...allergen.”¹ In fact, the sensitization capability and allergic potential of PPD have long been recognized.² The first medically documented cases of allergic contact dermatitis to PPD were reported in persons exposed to hair dyes

TABLE 1. Consumer Product Safety Commission (Formerly Designated by the FDA) List of Strong Sensitizers

1. Paraphenylenediamine and products containing it
2. Powdered orris root and products containing it
3. Epoxy resin systems containing any concentration of ethylenediamine, diethylenetriamine, and diglycidyl ethers of molecular weight <200
4. Formaldehyde and products containing 1% or more of formaldehyde
5. Oil of bergamot and products containing 2% or more of oil of bergamot

containing PPD in the late 19th century.³ Recognizing the implications of PPD exposure, Bonnevie recommended it to be included on the first standard series screening panel of patch test antigens in 1939.⁴ To date, there are only 5 allergens that are recognized by the Consumer Product Safety Commission (formerly designated by the Food and Drug Administration [FDA]) as “strong sensitizers,” and notably, PPD was designated in 1961⁵ (Table 1).

Although PPD is permitted to be used in hair dye (up to 6%), it has been specifically prohibited from skin application by the Food, Drug, and Cosmetic Act of 1938 but continues to be seen in *black henna* tattoos.⁶ Verma et al wrote that “Paraphenylenediamine is a frequent component of and sensitizer in ... temporary henna tattoos.” This is an important callout point because temporary henna tattoos are composed of natural red henna used in cultural practice and are devoid of the key-sensitizing and color-altering component of PPD. It is the practice of the application of *black henna* containing PPD that is in dire need of regulatory intervention. In 2001, the escalation in allergic contact dermatitis reports due to *black henna* led to the development of an FDA consumer warning Web site and hotline (MedWatch, 1-800-332-1088) for accurate reporting of such cases.⁷

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REFERENCES

1. Verma P, Yadav P. Paraphenylenediamine dye allergic contact dermatitis of mustache region manifesting as prurigo nodularis-like lesions. *Dermatitis* 2014;25:91–92.
2. Kligman AM. The identification of contact allergens by human assay. I. A critique of standard methods. *J Invest Dermatol* 1966;47:369–74.
3. Conde-Salazar L, Baz M, Guimaraens D, et al. Contact dermatitis in hairdressers: patch test results in 379 hairdressers (1980–1993). *Dermatitis* 1995;6:19–23.

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