

BRIEF REPORT

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Religious Allergic Contact Dermatitis

Abstract: Henna, derived from a combination of natural leaves and coloring additives, is a common decorative dye traditionally used in many Islamic religious celebrations. Para-phenylenediamine (PPD), a major component of black henna tattoo, is a strong sensitizer and common allergen. We report a case of severe connubial allergic contact dermatitis after black henna heterotransfer in a girl.

Henna (*Lawsonia inermis*) is a natural plant grown throughout the world. Mixed with oil and water, henna takes on a red hue that is used as a decorative cosmetic dye, but natural henna is often mixed with secondary ingredients such as para-phenylenediamine (PPD) to darken it and sustain a longer imprint on the skin. In Somalia, the end of Ramadan often includes the application of black henna on the hands and feet of women and girls. In India, North Africa, and the Middle East, henna application is a traditional and symbolic part of many religious and celebratory rituals, including weddings, births, and birthdays. Although PPD has been found to be a major culprit in many reported contact dermatitis cases in adults and children, it remains a common darkening additive to black henna ink (1).

We describe an unusual presentation of allergic contact dermatitis from black henna tattoo.

CASE REPORT

A 14-year-old Somali girl presented to the emergency department with a 1-day history of a pruritic vesicular eruption on the face and neck. She was not using any systemic or topical medications and had a negative review of systems and noncontributory past medical history. Physical examination showed multiple, small, erythematous vesicles and papules grouped on the left cheek spreading to the left side of her neck and upper chest (Fig. 1).

After further questioning, she reported a bullous reaction to black henna tattoo 5 years before and since then had been avoiding the use of black henna and had stayed away from gatherings where henna had been used for religious and social events. The day before presentation, her family had celebrated the end of Ramadan with black henna decorations of the women's hands. Although she did not attend the celebration or have the decorative tattoo applied to herself, her relatives who had the decorative paintings on their hands had touched and kissed her cheeks during greetings. The pattern of the vesicular eruption was consistent with this exposure. The patient denied any eczematous or allergic reactions to other chemical or metals before these two events and denied any history of atopic dermatitis.

The benefits and outstanding safety profile of patch testing were discussed with the patient and her family, but the family believed that, because of her high sensitivity to suspected PPD, the diagnostic benefits did not outweigh the risks of a severe reaction, so further testing was not pursued.

Our patient markedly improved with a course of oral and topical corticosteroids and strict avoidance of this allergen, with no other further episodes.



Figure 1. The right cheek of our patient with scattered and some coalescing clear-fluid-filled tense vesicles without umbilication, crusting, or pain on palpation on an erythematous background.

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DISCUSSION

PPD is the major ingredient in black henna tattoos and the main causative agent responsible for many dermatitic reactions associated with this dye's use (2). Its highly sensitizing properties can lead to severe vesicular, urticarial, and keloidal reactions even with minimal exposure. Severe reactions to black henna tattoos have been reported not only in Islamic countries, but also worldwide. Case reports of Dutch, U.S., Indian, and Israeli children have been published describing severe reactions to topical black henna products (3–5). Gass et al (6) reported a “connubial dermatitis” to PPD in a husband directly exposed to his wife's hair dye, but we found no reports of true connubial dermatitis in children after exposure to black henna tattoos. Although PPD can be used in hair dye in concentrations of up to 6%, it is prohibited in products for the skin. Nevertheless, concentrations of up to 29.5% PPD have been reported in black henna tattoos, indicating that these products are significantly dangerous sensitizers (7,8).

As international immigration rates soar, and the popularity of henna tattooing grows in western countries and vacation destinations, the incidence of exposure and sensitization may continue to rise. Clinicians should be aware of connubial PPD exposure–associated contact dermatitis in individuals with North African, South Asian, or Middle Eastern backgrounds after recent religious celebrations, large family gatherings, and international travel. Whenever possible, patch testing should be performed to provide a confirmatory diagnosis. Our case highlights the importance of good history taking to clarify the source of allergic contacts in situations in which no obvious exposures can be found.

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