Allergic contact dermatitis caused by a black permanent marker

Pailin Puangpet1,2, Jonathan M. L. White1, Ian R. White1 and John P. McFadden1

1Department of Cutaneous Allergy, St John’s Institute of Dermatology, St Thomas’ Hospital, London SE1 7EH, UK and 2Department of Contact and Occupational Dermatitis, Institute of Dermatology, Bangkok 10400, Thailand
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Contact allergy caused by permanent markers has rarely been reported. We present a case with contact sensitivity to temporary ‘henna’ tattoos, hair dye, and a black permanent marker.

Case Report

A 20-year-old female dental assistant experienced an acute dermatitis at the site of a temporary ‘henna’ tattoo that had been applied 3 days earlier. It transpired that ‘henna’ tattoos had been applied on previous occasions. After the above episode, she subsequently developed eczematous reactions on the face, neck and upper back within a few days of dyeing her hair with dark brown or black colour on two occasions. She therefore stopped using hair dye.

On a later occasion, she drew small figures on the backs of her fingers with a black permanent marker. A few days later, she developed linear pruritic erythematous dermatitis exactly at the site of these lines. The eruptions persisted for 1 week (Fig. 1).

Patch testing was performed (with 8 mm Finn Chambers® on Scanpor® tape) with an extended European baseline series, including diluted p-phenylenediamine (PPD), Disperse Orange 3, and caine series. Tests were read at days 2 and 4 according to the recommendations of the International Contact Dermatitis Research Group, and the results are summarized in Table 1 and Fig. 2.

Discussion

Allergy to azo dyes contained within a pen marker has been reported previously. A 62-year-old woman presented with dermatitis on the site where a green pen marker had been used to mark irradiation fields. She was patch test positive (++) to Solvent Yellow 146 (Orasol Yellow 4 GN®), which is a metal-free monoazo dye that is used in a green permanent marker (Edding 3000, Col.004) (1). Allergic contact dermatitis caused by other agents in permanent markers has also rarely been reported. Allergic contact dermatitis caused by colophonium was reported in...
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Fig. 2. Patch test reactions to the permanent marker at day 2.

References

1 Komericki P, Kern T, Aberer W, Kranke B. Contact dermatitis from Solvent Yellow 146 in a permanent marker. Contact Dermatitis 2001; 44: 256.