

Erythema multiforme-like eruption because of para-phenylenediamine

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Anna Balato¹, Cataldo Patruno², Nicola Balato¹, Lucia Gallo¹ and Fabio Ayala¹

¹Department of Dermatology, University of Naples Federico II, 80131 Napoli, Italy and

²Department of Dermatology, ASL Napoli, Centro Direzionale, 80100 Napoli, Italy

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Erythema multiforme-like (EM-like) eruption is a rare manifestation of contact dermatitis. It can be caused by many allergens like plants, metals, or topical non-steroidal anti-inflammatory drugs (NSAIDs) (1). We report the case of a 29-year-old woman who developed widespread EM-like lesions after local contact with para-phenylenediamine (PPD).

Case Report

A 29-year-old woman was admitted, in October 2006, with an acute dermatitis involving the scalp, ears, and limbs; physical examination showed

EM-like lesions, target-like appearance at the periphery of the sharply delineated lesions.

The onset of the rash began with multiple, erythematous, itching papules and vesicles on her scalp and behind the ears; subsequently an eruption of erythematous papular patches with a target-like appearance on the trunk and limbs developed (Fig. 1); manifestations on lower limbs were milder than the ones on upper limbs.

There were no oral, ocular, or genital lesions; reactive retroauricular lymphadenopathy was also present.

The patient was affected by alopecia areata totalis since she was 10, and she was used to wear a wig, made of natural hair, and to dye it with black colour. She had had her false hair dyed 1 day before the onset of the rash.

She had no personal or familiar history of atopy, no history of infection, and no history of drug assumption for more than 6 weeks prior to the eruption.

She was obese, but she was otherwise in good health.

In addition, the growth of hair in eczematous areas of the scalp was noticed after 1 month.

Patch testing with standard Società Italiana di Dermatologia Allergologica Professionale e Ambientale (SIDAPA) series gave positive reactions to PPD (++) and nickel sulfate (+).

She was treated with topical and systemic corticosteroids and systemic

antihistamines; the rash cleared after 2 weeks of treatment.

Discussion

Contact EM-like eruption is a rare manifestation of allergic contact dermatitis (ACD). Clinical presentation is variable, from localized affection of the contact areas to disseminated rash, even toxic epidermic necrolysis (1).

Its mechanism is still unclear, but some authors suggest that it could be simply a very severe, bullous ACD (type IV reaction); alternatively, it may be a true EM owing to the absorption of the antigen (type III reaction) (2, 3).

Anyway, EM-like eruption can be induced by some immunological processes following a contact reaction.

There have been implicated lots of allergens, like several metals, topical steroids, topical NSAIDs, plants, tropical woods, or industrial chemical products such as dyes and resins.

We present a case of EM-like eruption caused by PPD. In our patient, an EM-like eruption followed an acute contact dermatitis to hair dyes; the lesions appeared within 1 day of the dye being used and patch test confirmed sensitization to PPD. She dyed her wig with products formulated for natural hair and not specific for wigs. To our knowledge, this is the first



Fig. 1. Detail of EM-like eruption.

report on EM-like eruption because of PPD in a patient that was used to dye her wig.

PPD is one of the most common allergens among patients with ACD (4). It is the mostly widely used primary intermediate in hair dye formulations.

There have been some reports on EM-like eruption because of PPD. In 1981, Meneghini and Angelini (5) described a secondary polymorphic eruption because of sulphonamide and neomycin in a patient who was also sensitized to PPD. EM-like eruptions associated with contact dermatitis to hair dyes have been also reported (6, 7). EM-like picture following contact hypersensitivity to PPD in a 9-year-old girl who had received a paint-on tattoo has been described too (8).

Regarding the growth of hair in eczematous areas of the scalp, many authors have reported ACD as having a role in it. Topic immunotherapy in alopecia areata consists a mild contact dermatitis with help of a chemical substance, with a high potency of sen-

sitization, such as dinitrochlorobenzene, squaric acid dibutylester, and diphenylcyclopropenone (21). In our case, the regrowth of hair followed a severe ACD.

In conclusion, contact sensitivity is a diagnosis that should always be considered in patients with unexplained or atypical EM.

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Address:

Professor Nicola Balato
Department of Dermatology
University of Naples Federico II
Via Pansini 5
80131 Napoli
Italy
Tel: +39-081-7462451
Fax: +39-081-7462442
e-mail: balato@unina.it