

Short Communications

Para-phenylenediamine-induced lichenoid eruptions

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Allergic contact dermatitis from para-phenylenediamine (PPD) has been reported in hair dye users and hair-dressers (1, 2). Depigmentation due to contact sensitivity to PPD in hair dye has also been described (3). Lichenoid eruption due to PPD is rare, but is reported from colour developers (4-7).

Case Reports

Case no. 1

A 60-year-old Sikh presented with hyperpigmentation of the beard area for the past 3 months. He tied and set his beard with a black net, black rubber bands and a black wooden stick. Examination showed a diffuse violaceous plaque involving the sides of the face and chin, and extending onto the neck, strictly confined to the beard area and more evident at the margins. The oral mucosa was normal and there were no lesions on the wrists or ankles. He denied using hair dye.

Patch testing was carried out with the European standard series, an ether extract of the wooden stick, the net and a rubber band. Patch tests were positive to PPD, the net and the wood ether extract. The patient was considered to be sensitive to PPD used to dye the net and the wood black. Histopathology from the lesion was consistent with lichen planus. The patient was advised on avoidance and showed improvement at 3 months following application of topical corticosteroids.

Case no. 2

A 32-year-old school teacher complained of dark-greyish pigmentation over the forehead, neck and scalp for 8 months. He had applied black hair dye mixed with henna (1:2) to the beard and scalp and left it on for 2-3 h, without any symptoms at the time. 2 days later, he noticed pigmented macules over the forehead and neck, with mild itching. Skin biopsy and patch testing were carried out with the European standard series and henna (0.5% aq.). He showed positive (+) reactions to PPD and henna at D2, only PPD positivity persisting to D3. Skin biopsy showed mild spongiosis of the epidermis with exocytosis, the dermis showing a perivascular lymphocytic infiltrate involving the basal layer of epidermis, with

basal cell degeneration and pigmentary incontinence, features consistent with a lichenoid reaction.

The patient was advised to apply sunscreen and not to use hair dye. The lesions started subsiding after 2 weeks. 5 months later, the lesions over the forehead and chin had improved but there were multiple hyperpigmented 5-6 mm oval macules over the abdomen and back, similar morphologically to those on the forehead and neck. Oral mucosa, wrists and ankles were not involved. The patient was considered to have PPD-induced lichenoid eruption, with spread beyond the site of application.

Case no. 3

A 41-year-old irrigation department employee presented with itchy erythematopapular lesions over the vee of the chest, neck and extensor forearms. He had had these lesions from December to March for the last 4 years. They used to clear without pigmentation, and a provisional diagnosis of polymorphous light eruption was made. He also complained of itching in the beard area for the past 3 years and had used hair dye for the last 4 years. 1 month later, he had a few lichenoid lesions over the back. He had no oral involvement.

A skin biopsy from these lesions confirmed lichen planus. Direct immunofluorescence examination of a skin biopsy specimen showed IgM positive for a few Civatte bodies. Patch testing with the European standard series and plant allergens showed positivity only to PPD.

Case no. 4

A 60-year-old retired army officer presented with itchy exudative papuloplaque lesions over the trunk and extremities for last 3 months. The lesions on healing left behind hyperpigmentation. He also had hypopigmented macules in the beard area. He had been using hair dye for the past 10 years.

He was patch tested with the European standard series, plant allergens and hair dye. Patch tests were positive (+) to PPD, parabens and hair dye. He was treated with antihistamines and topical corticosteroids, with initial improvement, but 1 month later, we found marked hyperpigmentation at the sites of healed dermatitis. Skin biopsy showed a lichenoid infiltrate in the dermis and spongiosis in the epidermis.

Discussion

Lichenoid dermatitis has been described from colour developers (4) and as an occupational dermatitis from IPPD in tyres (5). Brancaccio et al. (6) reported positive patch tests to both colour developers and PPD in 1 patient, colour developers being derivatives of PPD. Lichenoid reaction to PPD-containing products is rare and none of the 23 individuals positive to PPD had a lichenoid reaction among 200 patients tested with the European standard series at our institute (8). To the best of our knowledge, this is the 1st report of lichenoid reaction to PPD in hair dye. Distant lesions, as in Case no. 2, may be due to percutaneous absorption of PPD (9).

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Allergic contact dermatitis due to Kathon® CG in Hong Kong

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Kathon® CG (CG means cosmetic grade) is a mixture of methylchloroisothiazolinone and methylisothiazolinone in a 3:1 ratio (1). The concentration of active ingredient used in cosmetics usually varies from 3–15 ppm (2). Higher concentrations of Kathon in industrial products can cause severe irritant contact dermatitis (3). Lower concentrations in cosmetics can cause allergic contact dermatitis (4).

Patients and Methods

45 consecutive Chinese adult female patients with a clinical diagnosis of contact dermatitis of the head and neck region due to cosmetics were patch tested with a cosmetics series (Chemotechnique Diagnostics, Malmö, Sweden) and with their own cosmetics. Finn Chambers® on Scanpor® tape were used. Readings were made at D2 and D4 and results recorded in the standard way (5).

Results

4 (patients A, B, C and D) out of the 45 patients patch tested showed ++ reactions to Kathon® CG at either D2 or D4. Patients A and B also showed ++ reactions to their own moisturizing cream that contained Kathon® CG.

Patient C showed a ++ reaction to her foundation cream, but the ingredients of the cream were not

labelled. Patient D showed no reaction to any of the cosmetics that she brought for testing. The reactions in patients C and D were initially regarded as irrelevant to their presenting conditions. However, they returned after 3 and 4 months, respectively, because of relapse of facial dermatitis. It was then found that they had used a cosmetic that contained Kathon® CG. Both patients showed a ++ reaction to their respective cleansing gel or foundation cream.

All 4 patients were advised to avoid using products that contained Kathon® CG. They were all symptom-free for at least 6 months after discontinuing the cosmetic containing Kathon® CG.

Discussion

Contact dermatitis due to Kathon® CG is likely to be common in Hong Kong Chinese, as it is, variably, in Europe and the USA (1, 6–9), and in Taiwanese hairdressers (10). Allergens for any population vary according to exposure (11). An ideal standard series should include the allergens most commonly encountered in the locality (12). It is recommended that Kathon® CG be included in the standard series for patch testing in Hong Kong, and in other Chinese populations where there is increasing use of cosmetics, full ingredient labelling being required both for prevention and for diagnosis.