

Patch tests with the European standard series, with the addition of eosin, Disperse Red 1, Disperse Red 17, 0.1% thimerosal and 1% ammoniated mercury, 2% copper, 30% titanium, and 1% Red Dye no. 202 (from the Japanese Society of Contact Dermatitis), and photopatch tests with standard test substances, were negative. A patch test with the pigment used on the patient showed a minute papular reaction by D 8.

Light microscopic examination of the lesion (H-E stain) showed a lichenoid reaction that consisted of epidermal basal cell degeneration, with incontinence of pigment and Civatte bodies; and dermal band-like infiltration with lymphocytes and histiocytes throughout the dermis, with no evidence of giant cells. A biopsy of the positive patch test reaction showed spongiosis, exocytosis with intraepidermal vesicles, and moderate perivascular infiltration of lymphocytes in the upper dermis. Electron microscopic examination of the lesion revealed pigment granules deposited in macrophages. X-ray microanalysis showed multiple metallic peaks, in which titanium was found in high concentration.

Treatment with a potent topical corticosteroid 2× a day, had been used for 5 months with no improvement. The papules decreased in size after intralesional steroid injection. Recurrent tenderness and burning sensations, along with enlargement of the papules, occurred within 3 months of the injections. The lesions subsided again with further intralesional corticosteroid injections.

Discussion

Red dyes in tattoos can be divided into 2 groups (6). First, mercury, usually red mercuric sulfide, also known as cinnabar, vermillion or Chinese red (4). Second, mercury-free compounds, such as cadmium selenide, hydrated ferric oxides (burnt sienna or red ochre), organics (sandalwood, brazilwood, scarlet lake) and carmine (dried insect bodies). Cadmium selenide and cinnabar are potent sensitizers. White pigment (titanium, aluminium, silica, calcium) also plays a rôle in the red colour as a diluent for lightening it.

Red tattoo reactions can induce discomfort, tenderness, swelling and induration (6). Bagley et al. (4) reported a psoriasiform verrucous plaque from a red tattoo. Goldstein (7) found an unusual keratosis that developed on such a tattoo, which resembled a keratoacanthoma. Reactions have been reproduced in mice injected with cinnabar and cadmium salts upon exposure to sunlight (7).

Inflammatory cell infiltrations of tattoo reactions vary (8). Our case showed a lichenoid pattern, which is the most common. Even though we could not obtain a positive patch test to components of the red tattoo in this patient, the biopsy showed a lichenoid reaction and the delayed reaction to patch testing suggests delayed hypersensitivity to tattoo pigment.

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Allergic contact dermatitis from apomorphine

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Case Report

A 73-year-old pensioner presented with a 6-month history of relapsing erythematous scaly vesicular eczema of the hands and perioral area. Patch tests with the GIRD-CA standard series were negative. Further enquiry revealed that every day, for 6 months, he had prepared and injected his wife, who had Parkinson's disease, with a vial of apomorphine (apomorphine hydrochloride 1%)

(1). He was consequently patch tested with apomorphine HCl 1% aq., with a positive reaction at 2 and 3 days. We advised him to protect himself with gloves and a mask when he injected the vial. After taking such precautions, he had no further recurrences until the complete disappearance of all symptoms. Patch testing with apomorphine HCl 1% aq. was negative in 10 control subjects at 2 and 3 days.

Comment

Apomorphine is a morphine derivative with a chemical structure similar to dopamine, which is used in the treatment of Parkinson's disease to control the "on-off" effect of levodopa. It can also be used as an emetic in the treatment of acute poisonings, because it causes direct stimulation of the chemoreceptor trigger zone, though it can cause protracted vomiting and shock. Other side-effects include CNS stimulation and depression, as well as respiratory difficulties. It is absorbed by intramuscular injection or subcutaneously, metabolized in the liver and eliminated in the urine mainly as metabolic waste (2, 3).

References

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