

Mercury-induced systemic allergic dermatitis caused by 'white precipitate' in a skin lightening cream

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Mercurial baboon syndrome is a distinct form of systemic allergic dermatitis that is mainly triggered by the inhalation of metallic mercury vapours (1, 2). We report an unusual case triggered by topical use of a mercury-containing cosmetic product.

Case Report

A 32-year-old Turkish non-atopic woman presented with erythema and itchy papulovesicular lesions on her face, neck, sides of the trunk, and antecubital fossae that developed 5–6 hr after the application of a skin lightening cream on her cheek and upper lip. Unintentionally, she had ingested the cream by licking her upper lip. The cream had been borrowed from an old neighbour who had bought it 15–20 years ago. The lesions cleared within 1 week with systemic corticosteroids.

According to product label, the skin lightening cream contained '*precip blanc*', and the patient thought that it was free of mercury. She believed that she had mercury allergy because of episodes of dermatitis, affecting her anogenital area and symmetrically on major flexures after exposure to broken thermometers 9 and 10 years previously, and use of mercurial antiseptics had caused erythema and vesicles at the application sites 4 and 12 years previously. She had no dental amalgam fillings or any problem with vaccinations; there was no other current contact with mercury compounds.

Patch testing was performed with an extended European baseline series (Brial Allergen, Greven, Germany) using IQ Chamber (Chemotechnique Diagnostics, Vellinge, Sweden). Open testing was performed with the patient's skin lightening cream (Fazıl® çil ilacı, as is, Fazıl Soysal Laboratuvarı İlaç ve Kozmetik San. ve Tic. Ltd. Şti., Istanbul, Turkey) and a mercurial antiseptic (Mersol®, as is, Merkez Laboratuvarı İlaç San. ve Tic.A.S., Istanbul, Turkey) on the right and metallic mercury (0.5% pet.) on the left volar aspect of her forearms. Tests were terminated after 1 D because, according to International Contact Dermatitis Research Group criteria (3), +++ and ++ positive reactions developed with the skin lightening cream and Mersol®, respectively. In addition, the patch tests showed a +++ positive reaction to ammoniated mercury (1% pet.) and a + reaction to thimerosal (0.1% pet.) (Fig. 1) and metallic mercury (0.5% pet.) at D1. Flare-up reactions were observed on the ipsilateral axillary fold (Fig. 1) and the antecubital area. Systemic steroids were given and reactions persisted at D3 (Fig. 2) but cleared completely within 10 D. No new attack occurred during a 2-month follow-up.

Discussion

The patient had three different manifestations of mercury allergy: systemic allergic dermatitis (baboon syndrome) following inhalation of metallic mercury vapour from broken

thermometers, and after topical use of a mercury-containing skin lightening cream, localized allergic contact dermatitis from topical use of mercurial antiseptics, and a flare-up reaction during patch testing with mercurial compounds. The symmetrically distributed eczema on the trunk, antecubital fossae, and the neck far beyond the application areas of the skin lightening cream suggested a proposed stage 3A or 3B of an allergic dermatitis syndrome (4).

Skin lightening creams containing mercury are still available in many countries (5–7). The manufacturer in our country confirmed that *precip blanc* was the abbreviated French term for 'white precipitate' that is an old synonym for ammoniated mercury (8). It had been replaced by hydroquinone in 1990, but unfortunately, our patient used an old product containing ammoniated mercury.

Topical use of mercurial antiseptics or cosmetics is usually considered not to be a trigger for systemic allergic dermatitis, but application close to mucosal orifices might lead to systemic reactions via absorption (9).

The presented case is a rare example of systemic allergic dermatitis caused by topical application of a mercury-containing cosmetic to the upper lip.

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Fig. 2. Open test results on the right forearm: +++ reaction to skin lightening cream (Fazıl® çil ilacı) and ++ reaction to mercurial antiseptic (Mersol®) at D3. Note the flare-up reaction on the antecubital area.

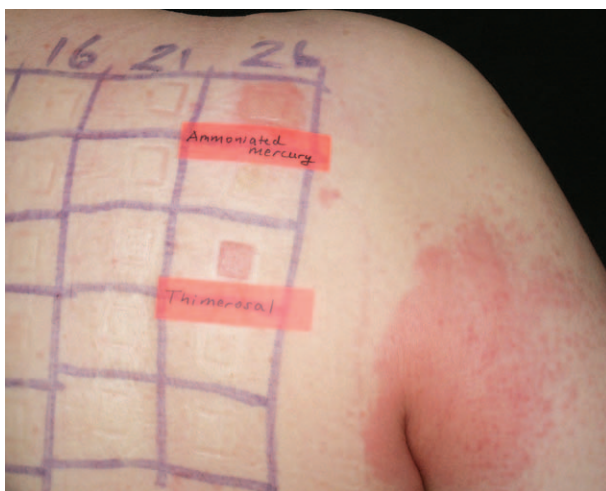


Fig. 1. Occlusive patch test results on the back: +++ positive reaction to ammoniated mercury (1% pet.) and + positive reaction to thimerosal (0.1% pet.) on D1. Note the flare-up reaction on the right axillary fold.

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