

Photoallergic contact dermatitis caused by quinidine sulfate in a caregiver

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Photosensitivity caused by systemically administered drugs is well known. However, drug-induced photoallergic contact dermatitis is only common with topical non-steroidal anti-inflammatory drugs. Nevertheless, there have been cases of photoallergic contact dermatitis in handlers of other drugs, especially in the professional field, but also among caregivers (1).

Case Report

A 41-year-old male consulted with eczematous plaques on the backs of the first and second fingers of both hands, the neck, the lips, and both earlobes, all exposed areas, of 6 months' evolution. At home, he administered capsules of quinidine sulfate (capsules manufactured in the pharmacy of our hospital) on a daily basis to his child, who suffers from Brugada syndrome. This medication, delivered by a hand-carried device, was considered as a possible cause of eczema. The technique used to prepare the medication is shown in Fig. 1.

Photopatch testing was performed with the European Photopatch Extended Series and quinidine sulfate 30% pet. (manufactured in the pharmacy department of our hospital), following ESCD recommendations (2). For photopatch testing, duplicate allergens as above were applied to the back for 2 days. Following removal, one series was irradiated with ultraviolet (UV) A (5 J/cm²), and the

other side served as the non-irradiated control. Reactions were read and scored 2 days post-irradiation, according to ICDRG criteria (3). Positive reactions were observed for quinidine sulfate irradiated with UVA (-/+), with a crescendo pattern. Patch testing with quinidine sulfate 30% pet. with UVA in 10 control patients gave negative results. The patient improved when he stopped handling the medication.

Discussion

Quinidine, an extracted natural alkaloid from the cinchona tree, is formulated as quinidine sulfate. It is used as an antiarrhythmic and antimalarial. Quinidine may cause skin photosensitivity in terms of both phototoxic and photoallergic reactions (4).

Photoallergic dermatitis secondary to quinidine use has been described after both oral and systemic administration of the drug (5, 6). This process involves a type IV hypersensitivity reaction, which is initiated by the covalent binding of a light-activated photosensitizer to a protein (7). It has been suggested that the binding of the hapten quinidine sulfate to a potential carrier protein, present in the serum of the patient, may be a fundamental event in the pathogenesis of photoallergic contact dermatitis (8).

Allergic contact dermatitis caused by the handling of drugs in caregivers is not uncommon, but may often be underdiagnosed. The situation becomes more complicated in photoallergy, as lesions do not appear on the palms or the palmar sides of the fingers (used to apply medication), but on the backs of the fingers and in sun-exposed areas that the caregiver has been touching accidentally. To our knowledge, this constitutes the first

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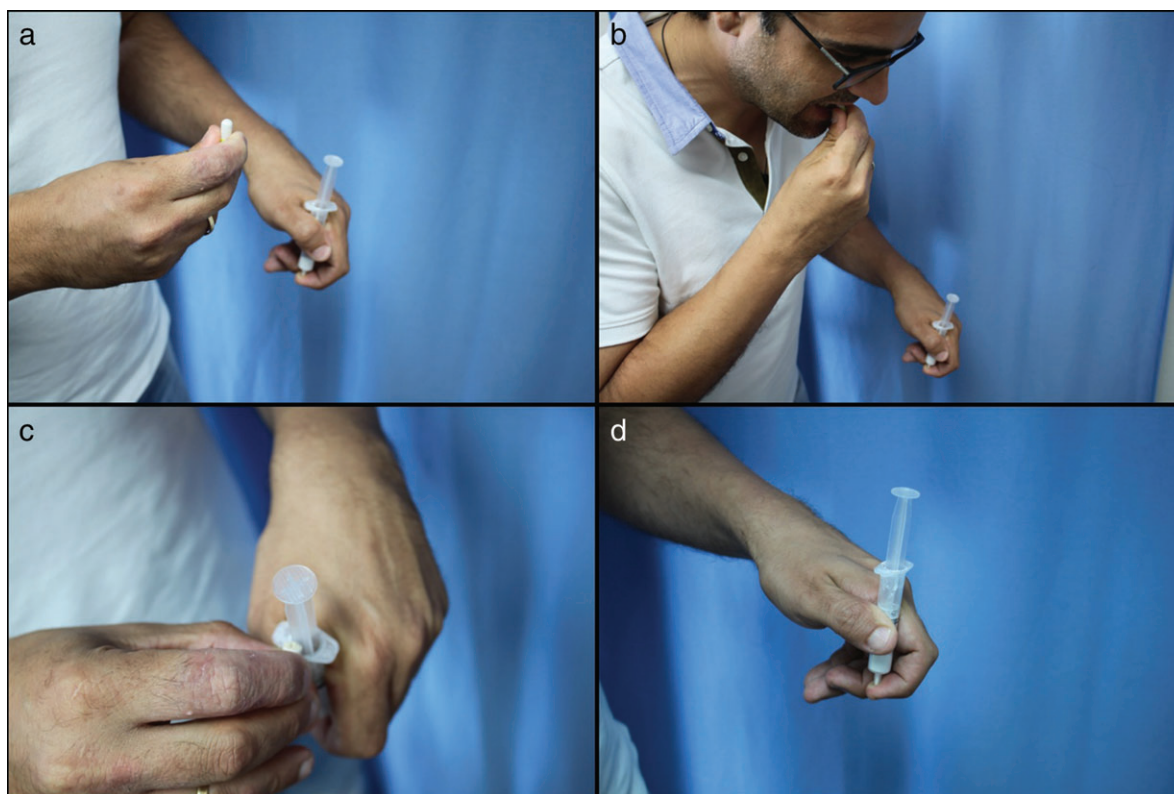


Fig. 1. (a) Step 1: holding the syringe containing orange juice firmly with the left hand and the capsule with the right. (b) Step 2: fragmentation of the capsule with the teeth. (c) Step 3: pouring the contents of the capsule into the syringe. (d) Step 4: mixing the medication with orange juice to facilitate ingestion.

reported case in the literature in which the photoallergic contact dermatitis occurred after handling of the drug. A high level of suspicion is fundamental for its diagnosis.

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