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Pulpitis as clinical presentation of photoallergic contact dermatitis due to chlorpromazine

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Chlorpromazine (CPZ), which is a phenothiazine formulated as CPZ hydrochloride, is a typical antipsychotic prescribed mainly in elderly population as a sedative.

Photoallergic contact dermatitis because of this drug has been classically described in health workers who become sensitized by manipulating this drug (1, 2).

We present three patients presenting eczematous pulpitis as the only manifestation of photoallergic contact dermatitis because of CPZ. No similar cases have been described, and we believe this is likely to be an underdiagnosed entity (Table 1).

Case 1 was a 57-year-old woman working as a cleaner with a 10-month-duration dry eczematous pulpitis affecting the thumb, second, and third fingers of the right hand. At home, she was a

caregiver for her mother-in-law, to whom she daily administered Largatil® drops and haloperidol drops. She believed those drugs were responsible for the eczema. Patch testing was performed with Spanish baseline series, Spanish photopatch baseline series (which includes CPZ hydrochloride 1% pet) and Largatil® drops (CPZ hydrochloride 4% solution; Sanofi Aventis, Barcelona, Spain) as is. Photopatch testing was performed by applying the Spanish baseline photopatch series duplicated on the back. After 2D, one series was uncovered and irradiated with WaldmannUV/PUVA 800 (H. Waldmann GmbH & Co, Willingen-Schwenningen, Germany) with UVA light (320–400 nm wavelength) as a source at a dose of 5 J/cm² (Waldmann UV-Meter; H. Waldmann GmbH & Co). Readings were

performed on D2 and D4, according to ICDRG criteria. Positive patch reactions were observed for Largatil® drops + UVA (-/+ +) and CPZ hydrochloride 1% pet + UVA (-/+ +).

Patient 2 was the husband of case 1, a 59-year-old man working in construction. For 10 months, he also had a dry eczematous pulpitis affecting right-hand fingerprints. He referred a nonevidenced, self-limited eyelid eczema at the beginning. He also delivered CPZ and haloperidol drops. Patch testing was performed as in case 1, and the same positive patches were observed.

Case 3 was a retired 65-year-old man not related to the previous cases presenting a 9-month duration of dry eczematous pulpitis affecting both hands. He also had a history of a self-limited eyelid eczema. At his home, he

Photoallergic contact dermatitis has typically been reported in health workers manipulating chlorpromazine.



Patients 1 and 2, Largatil® Drops



Patient 3, Largatil® Tablets

Figure 1 In patients 1 and 2 the handling of the container made the fingers get in contact with the solution. Patient 3 crushed the tablets obtaining a dispersible powder.

Table 1 Summary of clinical features and patch testing of all three patients

	Case 1	Case 2	Case 3
Sex	Woman*	Man*	Man
Age (years)	57	59	65
Activity (not occupational)	Caregiver of her mother-in-law	Caregiver of his mother	Caregiver of his mother-in-law
Clinical features	Dry eczematous pulpitis affecting thumb, second, and third fingers of the right hand (Fig. 1)	Dry eczematous pulpitis affecting right hand fingerprints Nonevidenced self-limited eyelid eczema	Dry eczematous pulpitis affecting both hands Nonevidenced self-limited eyelid eczema
Duration of the symptoms	10 months	10 months	9 months
Drugs delivered	Largatil® drops Haloperidol drops	Largatil® drops Haloperidol drops	Largatil® tablets Haloperidol drops Distraneurine® Betadine Sol.®
Patch testing†	Spanish baseline series Spanish photopatch baseline series Largactil® drops	Spanish baseline series Spanish photopatch baseline series Largactil® drops	Spanish baseline series Spanish photopatch baseline series Cosmetic series Largactil® tablets
Positive readings‡ (D2/D4)	Largactil® drops + UVA (-/++) CPZ hydrochloride 1% pet + UVA (-/++)	Largactil® drops + UVA (-/++) CPZ hydrochloride 1% + UVA (-/++)	Largactil® tablets + UVA (-/++) CPZ hydrochloride 1% + UVA (-/++)
Care giver	Yes	Yes	Yes
Clinical outcome after removing Largactil®	Healing	Healing	Healing

CPZ, chlorpromazine.

*Case 1 and 2 were respectively wife and husband.

†The Spanish photopatch baseline series includes CPZ hydrochloride 1% pet. Largactil® drops (CPZ hydrochloride 4% solution; Sanofi Aventis) were tested as is. Largactil® tablets (CPZ hydrochloride 25 mg/tablet; Sanofi Aventis) were crushed and tested as is.

‡Photopatch testing was also performed by applying the Spanish baseline photopatch series both on the left and the right half of the back. After 2D, one series was uncovered and irradiated with WaldmannUV/PUVA 800 (H. Waldmann GmbH & Co) with UVA light as a source at a dose of 5 J/cm² (Waldmann UV-Meter; H. Waldmann GmbH & Co). Readings were performed on D2 and D4, according to ICDRG criteria.

§Patch testing with Largactil® drops + UVA in 10 control patients was negative.

administered Largactil® tablets (CPZ hydrochloride 25 mg/tablet; Sanofi Aventis, Barcelona, Spain), haloperidol drops and Distraneurine® Capsules (Clomethiazole; AstraZeneca, Madrid, Spain) to his mother-in-law. He used to crush both the Largactil® tablets and Distraneurine® capsules to make them easier to swallow, obtaining a dispersible powder. Patch testing was performed as in previous patients adding Largactil® tablets and Distraneurine® capsules crushed and tested as is. He had positive reactions for Largactil® tablets + UVA (-/+ +) and CPZ hydrochloride 1% + UVA (-/+ +).

All cases healed completely once the patient stopped manipulating CPZ.

Photoallergic dermatitis because of CPZ has been reported mainly in

healthcare workers and veterinarians (3). The clinical features include acute or subacute dermatitis affecting sun-exposed areas, mainly face, forearms, and back of the hands. Generalized eczema after its systemic administration is possible in sensitized persons (4).

However, no previous reports of photoallergic dermatitis limited to finger pads have been made. The clinical peculiarity of this presentation lays in the particular areas affected, preserved sun-exposed parts and the characteristics of a dry chronic hyperkeratotic eczema. The role of nonprofessional caregivers shared by our patients is a curious link for the manipulation of CPZ that should be taken into account, and both the sensitization of a couple

could indicate that CPZ is a potent allergen.

In conclusion, we describe a new form of photoallergic contact dermatitis because of CPZ, which can be presented as eczematous pulpitis in people manipulating this drug in the role of caregivers.

The authors have no conflict of interest to declare.

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