

Short Communication

Occupational contact dermatitis from diacetylmorphine (heroin)

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Case Report

A 37-year-old woman, occupationally exposed to diacetylmorphine, developed redness and swelling, accompanied by severe itch, on her eyelids, with subsequent spread to her face and neck (case no. 1). The symptoms subsided over the following days, when she was off work. She experienced a recurrence the day after she was re-exposed. She was employed by the local health authority on a project supplying a selected group of drug-addicts with heroin under supervision. Capsules containing a mixture of caffeine and diacetylmorphine (heroin) powder were opened by her, and the contents handed over to the clients. She had no history of contact allergy or atopy.

Patch tests with the standard series and a cosmetics series, and prick tests with inhalation allergens, including latex, were negative. Patch tests with diacetylmorphine and related opiates were positive at D2 and D3 (Table 1). A week later, 3 of her colleagues, doing the same kind of work, were invited to attend because of similar, albeit milder, symptoms. From another city where the same heroin-delivery project is ongoing, 2 more possible cases (case nos. 5, 6) were reported. All were patch tested. 3 of them had symptoms compatible with diacetylmorphine allergy, confirmed by patch testing. The skin changes in the other persons could be attributed to a tendency to atopic dermatitis. In both cities, the project employs altogether 33 persons (most of them part-time) who are administering the diacetylmorphine.

Patch tests with diacetylmorphine 1% pet. in 3 control subjects were negative.

Discussion

Contact dermatitis from opium derivatives has been documented: occupationally in pharmaceutical workers (1) and in patients from treatment (2, 3). Diacetylmorphine (heroin), morphine and codeine have structural similarities: for an overview see De Cuyper & Goeteyn (2). The above-mentioned opium derivatives are known for their histamine-liberating effect, causing (non-immunological) contact urticaria. Anaphylactoid reactions, especially severe asthma, have been documented from inhaling heroin (4, 5). The fact that within a relatively short period of time (about 6 months) 3 out of 33 employees became sensitized, demonstrates the high allergenic potential, possibly airborne, of diacetylmorphine. Meanwhile, the project's operating procedures have been changed to avoid manual opening of the capsules: the risk of airborne exposure has thus been substantially reduced.

References

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Table 1. Positive patch test results

	Case no. 1	Case no. 2	Case no. 3	Case no. 4	Case no. 5	Case no. 6
morphine hydrochloride 1% aq.	++	+	–	–	++	–
caffeine 0.5% pet.	–	–	–	–	–	–
diacetylmorphine 1% pet.	++	+	–	–	++	–
codeine 1% alc.	++	–	–	–	++	–