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Airborne contact dermatitis caused by fragrance diffusers in Uber cars

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Although many substances can cause airborne contact dermatitis (ABCD), fragrance allergens are among the most common substances associated with the condition. We report that Uber, a frequently used ride delivery service, may be a new, unrecognized source of fragrance-induced ABCD.

Case Report

A 45-year-old Uber driver with severe contact dermatitis of the face and prominent eyelid involvement reported that dermatitis flared during his work days. Patch tests were positive for *Myroxylon pereirae* (balsam of Peru) and fragrance mix I. After discussing possible sources of his fragrance exposure, he mentioned the use of a fragrance diffuser to improve the smell of his car. His dermatitis dramatically improved after removal of the diffuser. Following this, 4 more cases of ABCD caused by fragrances were identified in Uber clients (3 females and 1 male), who experienced periodical flares of their skin lesions in association with time spent in Uber cars containing fragrance diffusers. Patch tests were positive for fragrance mix I in 1 case, and for fragrance mix I and *M. pereirae* in the remaining 3 cases.

Discussion

Fragrance allergens are very common in many consumer products. They may cause ABCD when they come into contact with skin in an aerosolized or airborne form from products such as scented candles, perfumes, potpourri, aerosols, incense, diffusers, wax melts, and even wall

paint. Very volatile substances and substances that are heated are more likely to disseminate a sufficient amount into the atmosphere, and thus are more likely to cause dermatitis (1).

ABCD related to cars has occurred previously; a case report described a woman who developed ABCD after being exposed to colophonium present in the adhesive of the linings of the roof, doors and dashboard of her car (2). However, to the authors' knowledge, the scientific literature has not yet identified fragrance diffusers in cars as sources of ABCD.

Fifteen percent of Americans utilize Uber, among other ride-hailing applications (3). With the great abundance of car perfumes currently available to consumers, Uber drivers may be exposing this large population to a variety of different allergens and irritants. Modes of delivery of the various fragrances range from car vents, to hanging perfume diffusers, and even to luxury electronic diffusers. Although Uber drivers aim to create an optimum experience for their clients, they may be contributing to the development of ABCD in both themselves and their clients.

Fragrance allergens are ubiquitous, and may therefore be almost impossible to avoid. Nevertheless, actions may be taken by Uber drivers to reduce the risk of the development of ABCD, the most obvious of which is to stop using automotive air fresheners. Uber drivers and their clients may also apply barrier creams and emollients, and engage in frequent bathing to decrease the penetration of fragrance ingredients (4). While continuing to allow drivers to offer convenience products such as water bottles, mints and chargers to their clients, Uber should perhaps implement a fragrance-free policy to protect the health of its employees and clients.

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