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Occupational contact dermatitis caused by nickel in scratchcards

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Case Report

A 22-year-old female was referred for what initially appeared as airborne facial dermatitis, which subsequently spread over the trunk and limbs. Dermatitis improved with topical corticosteroid treatment, and worsened during working periods. The patient was employed by the French national lottery, and she was in charge of manufacturing and packing scratchcards. Always wearing gloves, she also invalidated lottery tickets by scratching the card coating of scratch games on the 'void if reveal' part of the ticket, after which she blew away the particles into the air. The coating was supposed to only contain aluminium, but the dimethylglyoxime test performed on the coating gave a positive result. Patch tests, including the European standard series, cosmetic series, and skincare products, gave negative results, except with nickel. The patient had a previous history of contact allergy to nickel related to wearing fashion jewellery. Patch tests with an unused scratchcard and with material from the card's coating gave positive results on D2 and D5 (+/++). Airborne occupational contact dermatitis (OCD) caused by nickel from the coating of lottery scratchcards was thus diagnosed.

Discussion

The role of nickel in the onset of OCD is difficult to evaluate and quantify, as nickel is rarely the only responsible

allergen. According to Shum et al. (1), patch tests with nickel gave positive results in 12% of patients with OCD, with clinical relevance of nickel sensitization being seen in only 36% of these. In an Australian study with 157 hairdressers, 31% had positive patch test reactions to nickel, which were occupationally relevant in only 3% (2).

Nickel has rarely been found responsible for airborne contact dermatitis, and, in a recent review identifying the main causative agents of airborne contact dermatitis, nickel was not listed (3). There are, however, rare cases of airborne OCD caused by nickel. Facial dermatitis related to airborne exposure to nickel in dust was reported in a laboratory assistant (4). Schubert (5) reported airborne facial dermatitis in a seamstress with positive patch test reactions both to nickel and dust samples from the sewing hall. The dimethylglyoxime test gave a positive result with the dust. Bannar-Martin et al. (6) reported 1 case of airborne sensitization to nickel contained in a paint powder.

To our knowledge, we report herein the first case of airborne OCD caused by scratchcards. Pereira et al. (7) reported OCD in a lottery ticket seller. This 72-year-old man, who had previously been a painter in the construction industry for 36 years, developed hand eczema with sensitization to colophony and turpentine oil. Two years after he had become a lottery ticket seller, he had a relapse of his occupational hand dermatitis. Patch tests that gave positive results with colophonium gave negative results with the lottery ticket, but high-performance liquid chromatography on the lottery ticket revealed the presence of colophonium (6).

To conclude, we report a case of unusual OCD caused by airborne nickel exposure, secondary to the release of nickel from the metallic coating of scratchcards.

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