

Allergic contact dermatitis caused by latex gloves in a dental undergraduate student

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doi:10.1111/cod.12625

Key words: allergic contact dermatitis; case report; latex gloves; thiurams.

Dental professionals are required to wear gloves for all treatments. Most wear natural rubber latex gloves. This may cause sensitization to latex proteins and subsequent allergic reactions (1). We report the case of a 21-year-old dental undergraduate student who, after the first time he had worn latex gloves during a practical session in the second year of his course, developed severe allergic contact dermatitis.

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Conflicts of Interest: None declared.

Case Report

The student developed pruritus and redness on the dorsal aspect of his hand 24 h after he had used the latex gloves (Pure shield-PS 1000; Kossan Rubber Industries, Selangor, Darul Ehsan, Malaysia) for the first time during his practical session. The lesion initially measured approximately 1 cm × 2 cm, but, 48 h later, erythema spread further. Initially, the symptoms were disregarded; however, after 72 h, the size of the lesion increased to 5 cm × 6 cm, with the appearance of oozing blisters (Fig. 1). Previous history revealed a skin reaction to a rubber eraser.

Dermatologists performed a prick test on the patient's forearm with natural latex proteins obtained from the latex juice (Kossan Rubber Industries), with 0.1% histamine as a positive control and saline as a negative



Fig. 1. The blisters appeared within 48 h after exposure to latex gloves.

control. Standardized reading (2) after 15 min showed no positive reaction. Also, patch testing was conducted with 8-mm Finn Chambers® (SmartPractice, Phoenix, AZ, USA) on Scanpor® tape (Norgesplaster, Vennesla, Norway) with three rubber mixes from the international baseline series, namely, thiuram mix (1.0% pet.), carba mix (3% pet.), and mercapto mix (2% pet.), all from Chemotechnique Diagnostics (Vellinge, Sweden). The patch was applied to the patient's upper back, and occluded for 2 days. Readings were performed on day (D) 2, D3, and D7. The readings showed extreme positive

reactions (3+) to all three mixes at D2 and D3, and 1+ reactions at D7, according to ICDRG criteria (3, 4). The student was advised to apply 0.0025% wt/wt flucinolone ointment once daily for 1 week. Moreover, he was advised to discontinue wearing the latex gloves, and instead to use 'chemical-free' nitrile gloves (Chemax 7th sense CX7500; Kossan Rubber Industries). Follow-up at 1 year showed healthy skin.

Discussion

A considerable amount of unreacted accelerator (thiurams or other classes) may remain in the cured rubber product, migrate to the surface, and come into contact with the skin, causing allergic contact dermatitis (5). Our case shows that probable previous sensitization (resulting from the use of a rubber eraser) with inconspicuous problems may later lead to a severe reaction that necessitates special precautions throughout an entire professional career. Awareness of such previous reactions should be increased in dental professionals, especially young undergraduate students, before they are exposed to the gloves for the first time; adequate dermatological diagnosis, including prick and patch testing, is mandatory.

Acknowledgements

We thank Dr Sheerish Joshi MD (dermatologist) and Dr Haresh Kulkarni MD (dermatologist) for conducting various tests.

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