

Case Reports

Ten 8- to 9-year-old children (4 boys and 6 girls) and 2 female teachers from the same classroom of a primary school came to the emergency room of our hospital, and from there to the dermatology unit, because of an acute skin itching eruption. The clinical picture was characterized by excoriated follicular papules and scratch marks mainly localized on the exposed areas: face (4 patients), forearms (4), neck (3), and décolleté (3). Involvement of non-exposed areas (i.e. upper arms and trunk) was noted in 3 and ocular irritation in 1; no respiratory symptoms were found. History of atopy was present only in 1 child.

The patients referred that they, as well as some other children in the same classroom, had been suffering in the past 10 months from at least 4 similar acute episodes of intense itch starting when staying at school, sometimes along with mild respiratory symptoms. In every occasion, they were moved from the school and given systemic antihistamines and topical steroids, and the symptoms regressed in hours or few days according to the rash severity. Environmental investigations had been yet repeatedly performed by environmentalist and hygienist technicians, revealing high concentration of fibreglasses larger than 7 μm in diameter in the air; unfortunately, this had been thought not relevant to the problem as their care had been mainly directed to respiratory symptoms.

Our suspect of fibreglass dermatitis was confirmed by a skin stripping test performed on the forearms of 2 children, showing on the tape transparent fine spicules larger than 6 μm . A subsequent inspection in the school let us observe a large hole in the partition wall of the classroom from which a felt leaked out; the hole had been yet stopped many times in different ways without any results as an hyperactive child being part of that class cracked it systematically.

After our explanations, the principal of the school and the major of the town decided to settle the matter moving any teaching activity to another building; the original building, which was a prefab, was restructured too and used as an office. Pupils and teachers as well as the

office employees working in the restructured prefab did not suffer from any skin problem after about 6 months.

Discussion

Fiberglass dermatitis represents a common classic example of occupational irritant contact dermatitis whose pathogenic mechanism is represented by penetration into the skin of over 5 μm in diameter, fine, sharp particles; epidemics due to both direct (1) and airborne mechanical irritation (2) are frequently described in industrial environments.

Individual cases rarely occur: in a man after crawling over fiberglass insulation in his attic (3), in a little girl after visiting her father's factory (4), in 2 waitresses possibly due to contact with serving trays in a restaurant (5), and in some people after handling a rust remover (6–7).

Apart from the cases described by Anderson (8) among telephone operators probably because of multiple causes, unusual epidemics of itching in office environments have been associated with the presence of small amounts of settled fiberglass (2, 9, 10). The presence of these fibres appeared to be because of a fault in the construction plan, which facilitated the entry of the glass fibres into the indoor air from ceiling boards. Our cases only differ from these in that fibreglasses were released through an artifactual hole in the wall. Fiberglass dermatitis in a school has been yet described but due to direct contact with school desks (11).

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Fiberglass dermatitis microepidemic in a primary school

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