

was described (1). Since then, we have observed 3 cases with the same clinical manifestation.

Case Report

3 patients (1 female and 2 males) presented to our out patient department with ring-shaped, red scaly plaques on the buttocks and upper thighs (Fig. 1). The location of lesions characteristically corresponded to the pressure areas of the toilet seat. Patients reported that eczematous-like lesions and itchiness had appeared 2–4 months earlier.

Each patient was patch tested with the Italian baseline series of allergens [Società Italiana di Dermatologia Allergologica Professionale ed Ambientale (SIDAPA)] supplied by F.I.R.M.A. S.p.A. (Florence, Italy) with 'Haye's chambers'. At D4 reading, the tests showed a positive reaction (++) to formaldehyde (1% in water).

In all the cases, we detected the source of dermatitis in a domestic cleanser containing formaldehyde. This cleanser is commonly used for disinfecting lavatories.

Comment

Formaldehyde is a ubiquitous and strong sensitizer, commonly used in industrial, domestic, or medical places.

It is found as free formaldehyde, as a component of formaldehyde-releasing preservatives, and finally as formaldehyde resins (2). Free formaldehyde and formaldehyde releasers are used in a wide range of common products such as house detergents, topical medications, and cosmetics; they are also found in industrial products such as paints, disinfectants, cutting fluids, and lacquers (2, 3); formaldehyde resins are used as adhesives and binders in paper, plastic, textile finishing, etc. (2).

The risk of sensitization to formaldehyde is estimated to be very high among workers and consumers (2). Previous European studies state that contact allergy to formaldehyde is high (about 2.5% in a group of patients patch tested with the European baseline series). This is the result of exposure to formaldehyde and formaldehyde releasing preservatives (4). Cross-reaction between formaldehyde and formaldehyde releasers in sensitized patients has frequently been reported (5).

Toilet contact dermatitis

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In 1982, an unusual case of formaldehyde contact dermatitis in a 6-year-old girl, caused by a domestic cleanser,



Fig. 1. Ring-shaped, red scaly plaques localized on the buttocks and upper thighs of 70-year-old patient.

Because of the widespread use of formaldehyde, clinical presentations may be very variable.

In our patients, the unusual distribution of the dermatitis led us to the cause.

After an accurate history was taken, we showed that every patient in the group had spent lengthy periods of time sat on public lavatory seats. The group consisted of 2 men, 1 woman, and 1 female child. The first man, respectively 45 years old, was a businessman spending most of the day in an office. The second, respectively 70 years old, had lived in a nursing home for 3 years. The female was a 41-year-old teacher, and the first patient whom we described, in 1982, was a 6-year-old girl attending primary school.

Therefore, we concluded that contact with formaldehyde or formaldehyde components is more commonly found in public areas where, in order to guarantee adequate hygiene, aggressive cleansers are often used.

Multicentric studies should be promoted to investigate the prevalence of formaldehyde contact dermatitis in a special subject population, such as children at school or elderly people located in nursing homes. Those subjects are more prone to be sensitized because of the physiological changes of their skin with decreased efficacy of barrier function. Where high rates of sensitization occur, industry should be encouraged to substitute less sensitizing products for the problematic agents.

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