

BRIEF REPORT

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POLYURETHANE TOILET SEAT CONTACT DERMATITIS

Abstract: Polyurethane chemicals are produced by the reaction of isocyanates and they may cause allergic contact dermatitis or precipitate asthma attacks. Contact dermatitis to polyurethane toilet seat has not been reported before. Herein we present a case of allergic contact dermatitis to polyurethane toilet seat.

Toilet seat contact dermatitis is a rare form of localized dermatitis (1,2). Polyurethane chemicals are increasingly being used in the production of various products, including toilet seats. They may cause allergic contact dermatitis or precipitate asthma attacks, related to occupational exposure or not (3). We describe a child who developed allergic contact dermatitis to the polyurethane component of a toilet seat.

A 10-year-old girl was referred to our dermatology outpatient clinic with a 2-year history of a pruritic and erythematous eruption affecting her buttocks and upper thighs. Dermatologic examination revealed pale, erythematous, fine-scaled, symmetrical annular plaques in a circle on the bilateral posterior thighs (Fig. 1). The location and pattern of the lesions matched the thigh skin in contact with the toilet seat. Her lesions recurred despite the consistent use of topical corticosteroids and antihistamines. A provisional diagnosis of allergic contact



Figure 1. Erythematous, fine-scaled, symmetrical annular plaque on the buttocks.

dermatitis to the toilet seat was made, and she was patch tested using the International Contact Dermatitis Research Group standard series and the foam and leather cover of the toilet seat. She had a negative reaction to the standard series and leather, but the reaction to polyurethane foam was (+ +) positive on days 2 and 4. We learned that the leather overlying the seat was rubbed off, causing the polyurethane foam to be exposed and allowing sensitization despite the same toilet seat having been used for 7 years. After this, patch testing with toluene 2,4-diisocyanate and polyether, which are used in the manufacture of polyurethane foams, was negative (diluted to 1% and 2% in petrolatum). The patient was advised to replace the polyurethane seat with a wooden version. After replacing it and using a moderate-strength topical corticosteroid for a short time, the lesions permanently resolved, and no recurrence was observed within 2 years of follow-up.

Polyurethanes are chemicals produced by the reaction of isocyanates, mostly toluene 2,4-diisocyanate, and polyethers. They are used in foam rubber, synthetic fibers, surface coatings, glues, and sealants (4). Isocyanates are considered one of the most important causes of occupational-related asthma (5). There is also a potential relationship between isocyanates in consumer products and the increasing prevalence of asthma in the general population, especially children (6). Although isocyanates may cause severe irritation of the skin, eye, and respiratory tract, polyurethane was thought not to be an irritant or a sensitizer (7), but reactions to polyurethane products have been reported recently. Goosens et al (2) reported 22 cases of allergic contact dermatitis to polyurethane components, with positive patch test results to isocyanates in 13 of them. It is estimated that reports of allergic contact dermatitis from polyurethanes will increase because their use has become more widespread. To our knowledge, this is the first case report of allergic contact dermatitis to a polyurethane foam toilet seat. There is another report of toilet seat contact dermatitis in the literature in which the seat was made of wood (1). Toilet seats should be considered as an etiologic factor for localized buttock dermatitis and patch testing performed not only using a standard allergen series but also the components of toilet seats.

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HAKAN TURAN, M.D.
HAYRIYE SARICAOĞLU, M.D.
AYŞEGÜL TURAN, M.D.
ŞÜKRAN TUNALI, M.D.
Department of Dermatology, Uludag University Medical
Faculty, Bursa, Turkey

Address correspondence to Hakan Turan, M.D., Uludag University Medical Faculty, Department of Dermatology, Gorukle 16059, Bursa Turkey, or e-mail: drhakanturan@gmail.com.