

Short Communication

Contact urticaria from epoxy resin and reactive diluents

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Case Report

A 23-year-old man had been employed for 2 years as part-fitter in an aircraft factory, and regularly exposed to epoxy products and organic solvents (naphtha and 1,1,1-trichloroethane). He presented with a 6-month history of recurrent pruritus and urticarial weals on the face and upper limbs, sometimes with angioedema of the lips and tongue, and transient laryngeal constriction. These symptoms would occur within 20 min of exposure to epoxy compounds, and were worse when the patient was working within a closed section of fuselage. Cessation of exposure would bring relief in about 2 h.

Patch tests were done with the European standard series (Trolab) and epoxy, (meth)acrylates, isocyanates, and plastics & glues series (Trolab and Chemotechnique). The patient was also tested to a special series of 15 epoxy compounds, hardeners and solvents used at work. Allergens were applied on the back using Finn Chambers® (Epitest) on Scanpor® (Norgesplaster). A reading was made after 30 min, and the patches then reapplied for 2 days. A final reading was made at day (D) 4.

At the 30-min reading, urticarial reactions up to 4 cm in diameter were noted to epoxy resin (1% pet.) and to the reactive diluents phenylglycidyl ether (0.25% pet.) and cresylglycidyl ether (0.25% pet.). No delayed reactions were seen at D 4. The patient agreed to be rechallenged to all 3 substances: similar urticarial lesions were reproduced, this time with pharyngeal tingling and hoarseness. 10 mg of loratadine orally cleared the lesions within 60 min.

Discussion

Contact urticaria from epoxy compounds has infrequently been reported. Aliphatic polyamine hardeners may generate immediate reactions (1). Urticaria has been described from phthalic anhydrides, hardeners that also induce IgE-mediated respiratory allergy (2-5). A patient developed generalized urticaria after being patch tested with epoxy resin (6). Another had hand dermatitis, rhinitis and conjunctivitis from epoxy resin (7). 2 workers in a ski-stick factory showed urticarial patch test reactions to the epoxy resin used at work, but not

to the epoxy resin in the standard series (8). 2 patients presented with asthma and allergic contact dermatitis from standard epoxy resin (9). Both complained of immediate pruritus on exposure to epoxy resin, and had positive prick tests to epoxy resin conjugates with human serum albumin and specific IgE antibodies to epoxy resin. Reactive diluents do not appear to have been reported before as causes of urticaria, though being potent contact sensitizers (10) and highly volatile (11).

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