

standard and rubber series. A positive reaction was seen to nickel, but a latex patch test was negative. A latex prick test was negative. Clinical examination revealed dermatographism.

Discussion

Although the prevalence of latex allergy within some studies has been put at around 5% (2, 3), many individuals with symptoms suggestive of latex allergy are negative on patch and prick testing (3).

Dermatographism is a physical urticaria, pressure on the skin resulting in a wheal, and may simulate all other types of urticaria (4). Its prevalence in the general population is around 4% (5). Although often generalized, it may also occur in a localized form at sites of prick tests, insect bites and fixed drug eruptions (5). It has also been described as a cause of post-coital vulvodinia and dyspareunia (6), where it may be confused with condom allergy. As well as the 3 patients described here, an earlier report by Armstrong et al. (7) describes a laboratory worker who was diagnosed as having glove-induced physical urticaria.

Dermatographism is most commonly precipitated by pressure or shearing forces (4), both of which might easily be produced by the recurrent application and removal of tight-fitting surgical gloves. All the above patients with localized dermatographism of the hands found their symptoms exacerbated by the putting on and removal of

gloves and all were in jobs where the wearing of gloves was a regular occurrence.

Previously suggested differential diagnoses include non-immunological urticaria due to sorbic acid, immediate-type allergy to rubber additives, a granulomatous response to the cornstarch used in powdered gloves, and contact allergy to corn starch (8).

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Active sensitization to toluene di-isocyanate

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Case Report

A 48-year-old man was referred for facial seborrhoeic dermatitis and a chronic eruption of the dorsum of the hands and forearms. He had no past history of allergy and worked as an 'office-boy' for a medical laboratory. He had initially been patch tested 3 years before with the European standard series, for the same reasons, when positive reactions to PPD and benzocaine, both ++, had not been considered relevant. Since that time, he had applied to the upper limbs various antiseptics, non-steroidal anti-inflammatory drugs (NSAIDs) and corticosteroids daily for 1 year. He blamed the use of a plastic car polish and a liquid medicated soap for the relapse of his dermatitis.

He was patch tested by the Finn Chamber technique on the upper back with several excipients, antiseptics and preservatives, and a plastics and glues series (Trolab[®], Hermal, Reinbek, Germany & Chemotechnique

Diagnostics[®], Malmö, Sweden). We added tixocortol pivalate, budesonide and hydrocortisone 17-butyrate, his own topicals and the plastic car polish as is, in a closed and in a semi-open test. 2 sets were performed with the topical NSAIDs, one being removed and irradiated after 2 days (D2) with UVA 10 J/cm². Patch tests at D2 and D3 showed doubtful (?+) reactions to the NSAID top-

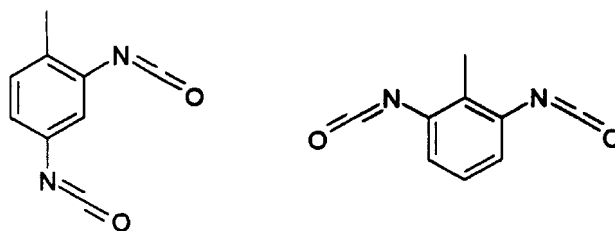


Fig. 1. Toluene 2,4-di-isocyanate and toluene 2,6-di-isocyanate.

icals, and a +++ reaction to 4,4'-diaminodiphenylmethane 0.5% pet., related either to the earlier reaction to PPD (1) or to the patient's previous job, which involved contact with 2-component glues. We prescribed emollients and recommended stopping the application of corticosteroids, on the hypothesis of a corticoid-dependent dermatitis.

The patient consulted again at D29 because he had experienced a pruritic lesion on his back for 6 days, in the area of the plastics and glues series. We found an infiltrated patch test reaction, with some scaling, corresponding to toluene di-isocyanate 1% pet., tricresyl phosphate 5% pet. or triglycidyl isocyanurate 0.5% pet. Subsequent patch testing 1 month later with the 3 suspected allergens confirmed active sensitization, with a ++ reaction at D2 and D3 only to toluene di-isocyanate 1% pet. (Trolab®).

Discussion

Active sensitization is a classical but rare complication of patch testing, observed principally with PPD, plant extracts or (meth)acrylates (2–4). Though generally asymptomatic, it consists of a flare-up, a persistent positive, infiltrated, sometimes pruritic reaction after D7. Active sensitization results mainly from iterative patch testing or from excessively high concentrations, but can also occur with concentrations regarded as "safe" (4). Although the consequences of an active sensitization for the patient are generally unknown, they seem to be minor (5), since most responsible allergens are not present in the patient's environment.

Toluene (toluylene or tolyene) di-isocyanate (TDI) is a mixture of toluene-2,4-di-isocyanate, CAS registry number [584-84-9] and toluene-2,6-di-isocyanate, CAS registry number [91-08-7].

TDI is the most common isocyanate used in polyurethane production for coatings, paints and varnishes, adhesives or glues, foams synthetic rubbers and elastomeric fibres (6). TDI is an irritant and a strong sensitizer which may induce asthma and contact dermatitis, mainly in industrial workers or painters (6, 7). There is

probably no cross-reactivity between TDI, diphenylmethane-4,4'-di-isocyanate (DMDI), and the other isocyanates. Simultaneous reactions to both 4,4'-diaminodiphenylmethane (DDM) and DMDI observed in some patients (6) were not found in our patient, who tested negatively to DMDI 1% pet.

TDI is included in the plastics and glues series (Trolab®) at 1% with 2,4-TDI >98% as raw material (Dr. Schumacher, personal communication). The purity of TDI in the isocyanates series (Chemotechnique Diagnostics®) at 2% pet. is 99.8% pure 2–4 isomer (Mrs Magnusson, personal communication). However, those concentrations seem to be too high, with reference to the recommendations of 0.1 (ICDRG, 3, 6) to 1% (6).

Conclusion

This, to our knowledge, is the 1st case reported of active sensitization to TDI, most likely the 2–4 isomer. The definitive patch test concentration of TDI should probably be further discussed.

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Contact allergy to mercaptobenzothiazole in a bank clerk from a wet sponge

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Case Report

A non-atopic 55-year-old bank clerk presented with eczema of the tips of the thumb, index and middle fingers of both hands, with the clinical appearance of a dry 'pulpitis'. Patch tests with the GIRDCA standard series were all negative except for mercaptobenzothiazole (MBT)

and mercaptobenzothiazole mix (both ++ D2/+++ D3). He was accustomed to moistening his fingertips on a wet rubber sponge before counting banknotes. A patch test with a small piece of this sponge showed ++ D2 positivity.

Chromatography and mass spectrometry performed on the MBT of the standard series identified the 168 Da