

Allergic contact dermatitis from mono-, di- and triethanolamine

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Key words: monoethanolamine; diethanolamine; triethanolamine; allergic contact dermatitis; cross-sensitisation; declaration of contents; metalworking fluids; occupational; engineering industry. © Munksgaard, 1997.

Case Report

A 54-year-old man changed occupation from shoemaker to grinder. In the new job, he had contact with cutting oil daily. 6 weeks later, he developed dermatitis on both hands and forearms. While he was away from work, the dermatitis rapidly improved. 2 days after resumption of work with a new cutting oil, he again developed dermatitis in the same areas.

Patch tests to the European standard and additional series (Hermal) showed the following positive results after 3 days: monoethanolamine 2% aq. (+), diethanolamine 0.1% aq. (+), triethanolamine 2.5% pet. (+), cutting oil 3% in o.o. (+), used cutting oil 3% o.o. (?+), mercuric chloride 0.1% pet. (+), benzoyl peroxide 1% pet. (++) and phenylmercuric acetate 0.01% aq. (+).

4 weeks later, repeated patch testing with mono-, di- and triethanolamine in serial dilutions showed the following positive results after 3 days: monoethanolamine 1% aq. (++), monoethanolamine 2% aq. (IR), monoethanolamine 1% pet. (+++), monoethanolamine 2% pet. (+++), diethanolamine 0.05% aq. (-), diethanolamine 0.1% aq. (-), diethanolamine 1% pet. (++), diethanolamine 2% pet. (++), triethanolamine 1.25% pet. (+), triethanolamine 2.5% pet. (++).

The declared contents of the relevant cutting oils were soaps of triethanolamine and arylsulfonamidocarbonic acid, isononanoyl acid, reaction products of monoethanolamine, 2-(2-aminoethoxy)-ethanol, boric acid,

benzotriazole and water. According to the manufacturers, the cutting oils were free of diethanolamine.

Discussion

Mono-, di- and triethanolamine occur in many products (1, 2). Contact dermatitis from each of the 3 is known, but not common (2–4). Allergic contact dermatitis from mono-, di- and triethanolamine in the same patient has not been reported before. However, in each of these ethanolamines, traces of the other 2 can be found (1, 2). Equally, cross-sensitization might be possible. Possible contamination and cross-sensitization should be indicated in the declaration of products (e.g., metalworking fluids) containing mono-, di- or triethanolamine.

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Contact dermatitis from diphenylthiourea in a knee brace

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Key words: rubber; neoprene; thioureas; diphenylthiourea; allergic contact dermatitis; kneebrace; lack of cross-sensitivity. © Munksgaard, 1997.

Thiourea compounds are used in the rubber industry as accelerators in the vulcanization process, especially in the production of neoprene. Thiourea compounds can cause both allergic and photoallergic contact dermatitis, though few cases have been reported.

Case Report

A 45-year-old man, with a previous history of poliomyelitis of the left leg, had used a knee brace for many years with no problem. A month after he changed his old knee brace to a new one based on neoprene, he de-

veloped a pruritic erythematovesicular eruption where the knee brace was in contact. Treatment with topical corticosteroids was effective. He had no reaction when he interposed a bandage between the skin and the knee brace. He had no previous history of reacting to other rubber products.

Patch tests with the GEIDC standard series were negative. Patch testing the 3 layers of the knee brace gave an allergic reaction (D2 ++, D4 ++). Patch tests with a rubber chemicals series (Marti-Tor) were positive only to diphenylthiourea (DPTU) (D2 ++, D4 +++). This rubber series, comprising 35 substances, includes 3 more thiourea compounds, dibutylthiourea (DBTU), diethylthiourea (DETU) and ethylenethiourea (ETU), as well as there being thiuram and carba mix in the standard series (Table 1).

Comment

This is the 1st case report of contact dermatitis from diphenylthiourea in a knee brace based on neoprene. 2 cases have been reported of knee brace dermatitis due to DETU (1) and ETU (3). Allergy to DPTU has been reported in Vulkan heat retainers (4), PVC adhesives (5), gloves (1) and pesticides (1).

Cross-reactions were not detected to DETU, ETU or DBTU, in accordance with other authors who recommend that each thiourea compound should be tested separately. Exposure to thiourea compounds is relatively widespread and it is often difficult to detect their source.

Table 1. Patch test results

Substance	D2	D4
diphenylthiourea 1% pet.	++	+++
dibutylthiourea 1% pet.	-	-
diethylthiourea 1% pet.	-	-
ethylenethiourea 1% pet.	-	-
carba mix	-	-
thiuram mix	-	-
knee brace	++	++

They should be tested in patients with suspected contact dermatitis exposed to rubber, PVC adhesives, diazo paper, pesticides, fungicides or anticorrosive agents.

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Lymphocytoma cutis involving the lower lip

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Key words: lymphocytoma cutis; lower lip; allergic contact sensitivity; dental amalgam; zinc chloride. © Munksgaard, 1997.

Case Report

A 30-year-old woman was referred with 2 asymptomatic eruptions on her lower lip, which had appeared a year ago and gradually enlarged. At almost the same time, pruritic eruptions had appeared under a necklace, her previous history revealing similar eruptions under metal accessories.

There were 2 erosive, reddish-purple, indurated nodules, 10 mm in diameter, on her lower lip (Fig. 1). There was a 12% peripheral blood eosinophilia with normal WBC, an increased serum IgE level of 548 U/ml, with specific IgE antibodies to house dust mite and Japanese cedar. She had no history of any chronic skin disorder, drug allergy or recallable injury to the lower lip.

Histologic examination revealed an acanthotic epidermis, lacking stratum granulosum and stratum corneum



Fig. 1. The 2 reddish-purple infiltrated nodules on the lower lip.

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