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Protein contact dermatitis from midge larvae (*Chironomus thummi thummi*)

C. DE JAEGER AND A. GOOSSENS

Contact Allergy Unit, Department of Dermatology, University Hospital St.-Rafaël, Katholieke Universiteit Leuven, Kapucijnenvoer 33, 3000 Leuven, Belgium

Key words: protein contact dermatitis; midge larvae; hands; *Chironomus thummi thummi*; prick test; RAST. © Munksgaard, 1999.

A 28-year-old man, an industrial painter whose hobby was fishing, had had an itchy dermatitis on the palms for 2 years. He reported no personal or family history of psoriasis or atopy. He was in good health, had no other complaints, and was taking no medications. Clinical examination revealed a sharply-bordered rhagadi-form eczema with vesicles on both palms. Mycological examination was negative.

Patch tests were conducted with the standard, plastics, and glues series, as well as his own materials from work: paints and soaps (semi-open) and gloves. Results were all negative at D2 and D4. As we did not then consider the dermatitis to be related to his occupation, he was asked to bring in some midge larvae, which he would scatter on the water with his bare hands when fishing. A prick test with larvae was strongly positive, and a RAST for *Chironomus thummi thummi* was also positive: 6.89 UA/LM(+) (total IgE: 686 KU/l). The lesions healed when he stopped handling the larvae.

Protein contact dermatitis is a combined (Type I) and delayed (Type IV) allergy expressed as a chronic eczema, with acute outbreaks a few minutes after contact with a protein-containing allergen. The diagnosis is made by

means of a scratch or prick test with the allergen, and specific IgE antibodies can sometimes be demonstrated in the blood. The hemoglobin of midge larvae with a low molecular weight, mainly the χ t 1–9, is a potent Type I allergen (1–4). Our patient had no urticaria, flushing, Quincke's edema, asthma, or rhinitis. He reported that itching on the palms started immediately after handling midge larvae.

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Exposure-pattern dermatitis due to 2-aminothiophenol and 2-aminophenyldisulfide

S. SOMMER, S. M. WILKINSON AND R. QUINLAN¹

Department of Dermatology, Leeds General Infirmary, Great George St, Leeds LS1 3EX, UK

¹Occupational Health, Zeneca Huddersfield Works, PO Box A38, Leeds Road, Huddersfield, HD2 1FF, UK

Key words: occupational; airborne contact dermatitis; aminothiophenol; potassium salt of aminothiophenol; aminophenyldisulfide; allergic contact dermatitis; chemical industry; cross-sensitivity. © Munksgaard, 1999.

A 50-year-old development technician, working in a chemical factory, presented with a 1-month history of 3 episodes of hand and facial eczema. He was not atopic and had no past medical history of note. The 1st episode

occurred after exposure to 2-aminothiophenol used in the chemical process, the 2nd when emptying the final product into trays to be dried, and the last after walking onto the plant to inspect a reaction vessel. The patient

was patch tested to our standard series and samples of chemicals used in the reaction process (Table 1). 15 controls were negative.

Discussion

There have been 2 previous reports of 2-aminothiophenol causing dermatitis (1, 2). This chemical intermediate may cause airborne contact dermatitis despite being oxidized in air. Petrolatum has been recommended as a diluent for patch testing (2), the chemical being degraded by acetone but not by ethanol. We used an

aqueous solution of the potassium salt, as 2-aminothiophenol also has a potent odour. A 2nd report describes systemic contact dermatitis following inhalation of 2-aminothiophenol, though no patch testing was performed (1).

2-aminophenyldisulfide is a condensation product of 2-aminothiophenol and was present in the final product. A cross-reaction between the 2 chemicals may account for the reactions in our patient to both an ingredient and the final product. A further possibility is that 2-aminophenyldisulfide is the true allergen, formed from condensation of 2-aminothiophenol. The latter seems unlikely because 2-aminophenyldisulfide has a higher melting point of 91°C than 2-aminothiophenol with a melting point of 26°C and boiling point of 234°C. On the 1st occasion, our patient was exposed to the volatile 2-aminothiophenol but not to the non-volatile condensate, and yet dermatitis still developed.

Table 1. Patch test results

		D2	D4
standard series		—	—
aminothiophenol (potassium salt)	0.01% aq.	+	++
	0.005% aq.	+	++
	0.001% aq.	+	++
other ingredients		—	—
final product	10% pet.	+	NT
	5% pet.	+	NT
	≤1% pet.	—	—
aminophenyldisulfide	0.01% aq.	++	++
	0.005% aq.	+	++
	0.001% aq.	+	++

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Exposure-pattern dermatitis caused by N-(2-amino-4,6-dichloro-5-pyrimidinyl) formamide

S. SOMMER, S. M. WILKINSON AND R. QUINLAN¹

Department Of Dermatology, Leeds General Infirmary, Great George St., Leeds LS1 3EX, UK

¹Occupational Health, Zeneca Huddersfield Works, PO Box A38, Leeds Road, Huddersfield, HD2 1FF, UK

Key words: occupational; airborne contact dermatitis; N-(2-amino-4,6-dichloro-5-pyrimidinyl) formamide; chemical industry; allergic contact dermatitis. © Munksgaard, 1999.

A 45-year-old chemical process technician presented with a 3-week history of facial eczema, which settled after a week off work. There was no past medical history of skin disease or atopy. He was patch tested to a standard and facial series, together with dilution series of his work materials. He reacted (+) on D4 to N-(2-amino-4,6-dichloro-5-pyrimidinyl) formamide (FADCP) 0.5 and 0.1% pet. and 0.5, 0.1 and 0.05% eth. 20 controls were negative to FADCP 0.5% pet.

Comment

A diagnosis of an airborne contact allergy to the chemical intermediate FADCP was made. The data sheet stated that there was a potential risk of skin sensitization but not of irritancy. To our knowledge, this is the 1st report of human contact allergy to this substance.