

For the subsequent few weeks, she suffered from no skin eruption because she avoided practicing the trumpet and wearing metal accessories. She developed itching and rash on her face when visiting a metal factory to have plastic applied to the mouthpiece of her trumpet. She then had no further relapses of her dermatitis.

Table 1. Patch test results with metals

Metals		Results	
		D2	D3
aluminum chloride	2% aq.	–	–
chromium sulfate	2% aq.	–	–
silver bromide	2% pet.	–	–
potassium dichromate	0.5% pet.	–	–
nickel sulfate	2.5% pet.	+	+
gold sodium thiosulfate	0.5% pet.	–	–
zinc chloride	0.5% pet.	–	–
cobalt chloride	2% aq.	–	–
ferric chloride	2% aq.	–	–
platinum chloride	0.5% aq.	–	–
mercuric chloride	0.05% aq.	–	–
copper sulfate	1% aq.	–	–

Comment

Nickel is the most frequent metal contact allergen (2). Nickel sensitivity was observed in 4.5% in the general population, in 8% of females and 0.8% of males (2). At the time of testing, 34% of the nickel-sensitive subjects showed eczema (2). In our hospital, out of 24 patients patch tested with the same metal series for 5 months, 8 (33.3%) had positive reactions to nickel sulfate 2.5% pet.

Some other dermatitis of musicians is due to nickel allergy (3, 4), a case of guitar-string dermatitis, for example (3). Nickel sensitivity may also be a cause of 'flautist's chin' (4). To our knowledge, there are no previous reports of nickel allergy in a trumpet player.

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Fixed drug eruptions due to betalactams and other chemically unrelated antibiotics

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Key words: fixed drug eruption; polysensitivity; betalactams; oral challenge; patch testing; adverse drug reactions; antibiotics. © Munksgaard, 1999.

Case Reports

Case no. 1

A 36-year-old man, treated for pharyngitis with cefaclor 500 mg, developed pruritic blisters on the glans penis and edema of the prepuce, with local hyperpigmentation, 16 h later. 8 months later, he experienced another similar reaction after taking ciprofloxacin 500 mg, with the addition of aphthous ulcers on the oral mucosa and odynophagia.

Patch tests on previously involved and uninvolved skin, with cefaclor and ciprofloxacin at 10% in petrolatum (pet.), were negative. Oral challenges with clindamycin, roxithromycin, tobramycin and doxycycline were well tolerated. 12 h after oral provocation with trimethoprim-sulfamethoxazole, he developed a fixed drug eruption (FDE) on the genitals.

Case no. 2

A 38-year-old man, being treated with amoxycillin 500 mg, presented with pruritic erythematous lesions on the hands and genitals. Patch tests with trimethoprim-sulfa-

methoxazole 10% pet. and amoxycillin 10% pet., on the back and on previously involved skin, were positive (D2 ++++) to amoxycillin.

Oral provocation was made with cotrimoxazole, and 24 h later, he developed erythematous-violaceous lesions on the hands (palms and interdigital spaces) and genitals. He was also challenged with roxithromycin (150 mg), with complete tolerance.

Discussion

Betalactams can cause various adverse reactions, mostly IgE-mediated, FDE being an unusual reaction to penicillin derivatives (1, 2). Moreover, the occurrence of FDE from chemically-unrelated drugs in the same patient is rare (3, 4), this being known as "polysensitivity" (5). Patients with FDEs have a higher frequency of HLA B₂₂ and HLA CW₁ antigens than the general population (6).

Patch testing is a simple and safe method to identify certain causative agents of FDE, but, if negative, cannot be relied on (7). In such cases, oral challenge remains

the only method to confirm tolerance to other unrelated antibiotics.

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Occupational hand dermatitis due to 1,2-benzisothiazolin-3-one in the water-softener manufacturing industry

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Key words: 1,2-benzisothiazolin-3-one; Proxel GXL[®]; allergic contact dermatitis; occupational; isothiazolinones; water-softeners; biocides; material safety data sheets. © Munksgaard, 1999.

Case Report

A 63-year-old man developed vesicular hand dermatitis, extending up his forearms, several months after starting work in a factory assembling water-softeners. There was no previous skin disease or atopy. He worked with organic solvents and Proxel GXL[®] (1,2-benzisothiazolin-3-one 20% in aqueous dipropylene glycol), which was used as a preservative for the membranes of the water-softeners. He diluted the Proxel GXL[®] with water to make a 0.1% solution, without gloves or other protective clothing, unaware that Proxel GXL[®] was a known sensitizer and that skin contact should be avoided. He immersed the membranes in the solution, forcing the solution through the membranes at high pressure.

Patch testing with the European standard series, a hand series and 0.1% Proxel GXL[®] (0.02% 1,2-benzisothiazolin-3-one in aqueous dipropylene glycol) gave a positive reaction only to Proxel GXL[®] (D2+ \ D4+). He was tested further with Proxel[®] (0.05% 1,2-benzisothiazolin-3-one in petrolatum) (D2+ \ D4+) and propylene glycol (D2-/D4-), confirming contact sensitivity to 1,2-benzisothiazolin-3-one. No reaction was observed to chloromethylisothiazolinone/methylisothiazolinone (Kathon CG[®]).

Comment

Isothiazolines are biocides widely used in industrial and household products (1). Sensitization to 1,2-benzisothiazolin-3-one has been reported in workers in paint and air-freshener manufacturing, pottery, printing, decorating and metalworking (2). Allergic contact dermatitis has not previously been described in the water-softening

industry. Our patient's hand dermatitis improved when absent from work for periods of a week or more, but failed to resolve completely, largely due to poor working practices, which he was unwilling to address due to fear of being made unemployed. He was unaware of the existence of health and safety data sheets until he came to the patch test clinic.

Our patient did not test positively to chloromethylisothiazolinone/methylisothiazolinone (Kathon CG[®]), another isothiazolinone, with which true cross-sensitivity is rare (2). Testing to 1,2-benzisothiazolin-3-one has been recommended at 0.1% (3), but other researchers have found this concentration to give frequent irritant reactions and have recommended concentrations of 0.04% (4). Our case supports the argument for testing at lower concentrations. It also highlights the problems an employee can experience due to lack of information and poor working practices.

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