

Short Communications

Contact dermatitis to ethoxyquin in animal feeds

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A 56-year-old man complained of an itchy, erythematous and finely scaly, occasionally oozing eruption for the past 2 years. The dermatitis started on the face and extended to the hands and forearms. A protective effect of clothing was noted. The eruption looked somewhat like a photodermatitis. The patient is the owner of a farm. He feeds calves with a dusty animal feed daily. Patch tests with a standard tray and additional series of allergens revealed sensitivity to p-phenylenediamine, sulfanilamide, p-amino-azo-benzene and mercury. The animal feed and its components were also tested. Positive tests were obtained with the animal feed and ethoxyquin (Table 1). The factory which supplies the animal feed was willing to make a feed without ethoxyquin. Since using this feed, the patient has no skin complaint.

Patient 2 was also tested with vitamins A, B, B2, B3, B6, B12, C, D and E, nicotinic acid, iron sulfate, calcium biphosphate, cobalt sulfate, copper sulfate, manganese oxide, lysine,

Table 1. Patch tests in two people handling animal feed. Tests read after 48 h and reactions coded according to Wilkinson et al. 1970

	Patient 1	Patient 2
Ethoxyquin 1 %	++	++
Ethoxyquin 0.2 %	++	+
p-phenetidine 1 %	NT	+
Animal feed	+	NT

Patient 1 was also tested with vitamins A, D3, B1, B12 and E, nicotinic acid, potassium iodide, cobalt sulfate, manganese oxide, methionine and terramycin. All these tests were negative.

carbowax, zinc bacitracin and tylosin. All these tests were negative.

A 44-year-old man since 4 months ago had an erythematous and slightly scaly eruption which started on the face and extended to the hands, arms and legs. The patient is employed in a factory making animal feed. Patch tests with a standard tray did not show any reaction but tests with components of the animal feed gave a positive reaction to ethoxyquin (Table 1). Realizing it was difficult to avoid ethoxyquin in the factory, he found work in an unrelated industry and recovered from his skin disease.

Discussion

The handling of animal feed by workers in the industry and by farmers distributing the feed to animals can result in contact sensitivity to various components, such as cobalt sulfate (Breuckner & Hofs 1966), furazolidine (Scharfberg 1967), ethoxyquin (Melhorn & Beetz, Schubert et al. 1973, Burrows 1975), "a p-phenetidine-containing anti-oxidant", probably ethoxyquin (Pambor 1971), tylosin (Neldner 1972), quindoxin (Scott & Dawson 1974), and halquinol (Burrows 1975).

Our two patients showed sensitivity to ethoxyquin, a component of animal feed which is present at a very low concentration (less than 100 ppm in the animal feed which the first patient used). Both had the initial and most important lesions on the face. Airborne contact is probable. The appearance of a light sensitivity reaction in the first patient suggested such a mechanism.

It is known that p-phenitidine is present in ethoxyquin in a concentration up to 0.5 % (Spark 1968). The "para" sensitivity of the first

patient and the weakly positive test to p-phenetidine in the second patient indicates a possible role of this component in the contact dermatitis.

It would be interesting to examine the reaction of ethoxyquin-sensitive patients to other quinoline derivatives such as quindoxin and halquinol. Vioform® gave a negative test in our two patients.

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Contact dermatitis in lens makers due to diallylglycol carbonate

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Lacroix et al. (1976) described an outbreak of contact dermatitis due to diallylglycol carbonate at a lens making factory in France. This method of manufacture of lenses is used in a similar factory in Ireland, the only one outside France. A few weeks after production was commenced in 1976, six operatives on lens filling and inspection developed dermatitis. The cause and nature of the dermatitis have been fully investigated and reported by Lacroix et al. (1976), who found it was due to the direct irritant effect of diallylglycol carbonate. It was felt worthwhile to report these six cases to confirm the findings of Lacroix et al. (1) of the highly irritant nature of this compound and (2) the very characteristic symptom of aggravation of the dermatitis by cold.

All cases occurred at the lens filling or inspection stages of manufacture. This process

involved the most contact with diallylglycol carbonate and all the operatives doing the work developed the rash. The rash produced in all patients was similar, consisting initially of redness and swelling on the hands, then spreading to the forearms and sometimes the abdomen. In severe cases blistering occurred with general malaise and influenza-like symptoms. In some cases the dermatitis was mild, producing no discomfort in the warm environment of the factory, pain and itching only becoming evident when the patients stood in the cooler atmosphere outside the factory waiting for the bus to go home, or washing in cold water. In the more severely affected cases, aggravation of both symptoms and rash by cold was a very prominent feature. This complaint seemed to be more pre-eminent than in the French cases. Perhaps this is due to the

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