

Contact dermatitis from agricultural fungicide in South Australia

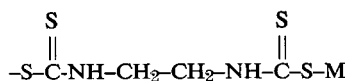
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Wheat and barley are important primary products for export from South Australia. Seed merchants in South Australia treat the wheat and barley seeds with a fungicide before the farmer plants his crops. During 1975 contact dermatitis was seen in two men from a fungicide called Mankobunt®. One man prepared the wheat and barley and the other was a farmer who came in contact with the fungicide during planting. A seed merchant stated that the fungicide had caused skin eruptions amongst the men producing it in the factory, amongst employees of the seed merchants and amongst several farmers. Severe dermatitis from the fungicidal powder was concentrated on exposed areas, but was also present on covered areas to a lesser degree.

Patch testing was carried out to 0.5% of the fungicide Mankobunt which had been supplied from the seed merchant. Strong positives were found in both the technician and the farmer. Patch tests were applied to another fungicide, Zineb 65®, which has been reported as a contact sensitizer (Fisher 1973) and cross-reactions were found in both cases. Ten other patients were tested with the material used for patch testing with negative results.

The active ingredient of the fungicide is Mancozeb which is the common name for a coordination product of zinc and manganese ethylene bisdithiocarbamate. The active ingredient of Zineb 65 is polymeric zinc ethylene-1,2-bisdithiocarbamate. The basic structure of Mancozeb and Zineb 65 is as follows:



where M equals metal and in the case of Mancozeb is Mn/Zn and in the case of Zineb 65 is Zn.

Both products have a chemical relationship to dimethylthiuram disulphide and other thiurams which are used as agricultural fungicides as well as rubber accelerators. Patch testing with the thiurams was not carried out.

Reference

Fisher, A. A. (1973) *Contact Dermatitis*. Philadelphia: Lea & Febiger.

Eczematous contact allergy to oxytetracycline and polymyxin B

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In 1974, Bojs and Möller reported the occurrence of contact allergy to oxytetracycline, including cross-sensitization to other tetracyclines in three patients. Since then, a further seven cases have been registered, all sensitized by Terramycin-Polymyxin B® ointment (oxytetracycline chloride 3 g, polymyxin B sulphate 10⁶ IU, liquid paraffin and white petrolatum to 100 g). The patch test results in all 10 patients are given in Table 1. They all had hypostatic

ulcer and/or dermatitis and were all, except patients 1 and 10, females. The occurrence of allergic reactions to standard allergens is also indicated.

With all but one patient reacting to oxytetracycline, and all patients reacting to polymyxin B, the result is obviously an example of concomitant sensitization to nonrelated compounds present in the same product. Since only one of 31 controls reacted to polymyxin B "as is"

Table 1. Patch test results in 10 patients allergic to Terramycin-Polymyxin B ointment. Technique: Finn chamber (Pirilä 1974) for 48 h, reading at 72 h. + = strong reaction, (+) = weak reaction, - = negative reaction. Patients 1 to 3 earlier reported (Bojs & Möller 1974); here polymyxin B was tested "as is". For oxytetracycline, 31 negative controls; for polymyxin B 3 %, 56 negative controls.

	Patient no.									
	1	2	3	4	5	6	7	8	9	10
Ung. Terramycin-Polymyxin B® (as is)	+	+	+	+	(+)	(+)	+	+	+	+
Oxytetracycline (3 % pet.)	+	+	+	(+)	(+)	+	-	+	+	+
Polymyxin B (3 % pet.)	+	+	+	+	+	+	+	+	+	+
Positive test to standard allergen(s)	-	+	+	-	+	+	-	+	+	+

(Bojs & Möller 1974), patients 1 to 3 are also considered truly allergic to this antibiotic. The great liability of this patient category to become sensitized to a variety of contactants is also illustrated in the table.

Patients 5 and 6 showed weak reactions to the ointment in spite of strong reactions to the ingredient(s). This may be due to the histamine-liberating property of polymyxin B, which can influence the development of a delayed hypersensitivity reaction (Magnusson 1963). The addition of an antihistamine to intracutaneously injected polymyxin B results in an increased expression of delayed allergy (Björkner & Möller 1973).

References

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- Magnusson, B. (1963) The influence of histamine on the tuberculin reaction. *Acta Dermato-venereologica* 43, 206.
- Pirilä, V. (1974) Chambertest versus lapptest. In *Förhandlingar vid Nordisk Dermatologisk Förenings*, 20th Meeting, ed. Thyresson, N. & Hägermark, Ö., p. 43. Uppsala.

Sensitivity to the pesticide benomyl

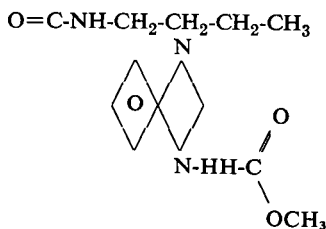
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A 31-year-old grower of plants (mainly begonia) was suffering from hand eczema for two years. He used some pesticides, especially Parathion® and Benlate®.

Patch testing was performed with silver patches (Fa. van der Bend, Brielle). The following ICDRG series were used: standard, plastics, glues, and pesticides. Other pesticides (1 % in pet.) were also tested. A positive reaction was observed only to benomyl (Benlate). Ten control persons did not show any reaction.

The structural formula of benomyl is:



Chemical name: methyl-N-1-(butylcarbamoyl)-benzimidazole-2-yl carbamate. This compound is used mainly against mildew. The contact sen-

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