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Ethylene glycol sensitivity

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A 17-year-old male was referred with an eczematous dermatitis. He was employed in a factory manufacturing spectacles where he operated a machine which burnished glass lenses. During this process the lenses are bathed in a fluid made up of ethylene glycol (one part) and water (three parts). The patient had been employed in the same position for one year and the rash developed about four months after starting the work. The dermatitis mainly affected the fingers, dorsa of the hands, wrists and forearms. Some less conspicuous lesions were present on the dorsa of the feet.

Patch testing was carried out with ethylene glycol 1 and 5 % in water and 3 % in ethanol. Water and ethanol control patches were also applied. At 48 h a faint positive reaction was noted with the 3 % solution in ethanol. At 72 h this result had become strongly positive with erythema and swelling. All the other tests and control patches were negative throughout.

After patch testing he was moved to a different department in the factory where he no longer came into contact with ethylene glycol.

Six weeks later there was a marked improvement in his condition.

Nine control subjects were tested with 3 % ethylene glycol in ethanol and with ethanol alone. In one subject a faint reaction was present with the 3 % solution at 48 h but this had disappeared at 72 h.

A case was reported by Hindson & Ratcliffe (1975) who found that ethylene glycol 5 % in water produced a strong positive result at 48 h. However, in view of the false negative result on testing with 5 % in water and the true positive result with 3 % in ethanol in the present case, it appears that alcohol may be a better vehicle than water for testing with ethylene glycol.

Reference

- Hindson, C. & Ratcliffe, G. (1975) Ethylene glycol in glass lens cutting. *Contact Dermatitis* 1, 386–387.

Contact dermatitis to one ingredient of Xerumenex ear drops

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A woman of 38 with no previous history of otitis externa or other skin disease had used Xerumenex® ear drops on one occasion only,

three weeks before presentation, in an attempt to remove some troublesome aural wax. Twelve days later, having suffered no ill effects, but

still troubled by the wax, she repeated the application. The next day, both ears began to itch and to produce a yellowish discharge; redness and swelling appeared around the external auditory meati, and spread to the pinnae and cheeks over the next four days. During that time she was given oral penicillin, topical Aureomycin® ointment and Otosporin® drops. However, the original swelling and erythema continued to spread until she was referred for an urgent dermatological opinion, nine days after the second application of Xerumenex®. By then she had bilateral peri-orbital oedema, erysipelas-like inflammation on both cheeks with weeping and crusting all over both pinnae, and a maculo-papular erythema extending down both sides of the neck, meeting in the midline over the *manubrium sterni* and the *vertebra prominens*. She was treated with 1% hydrocortisone cream and her condition responded satisfactorily over the next two weeks. Patch testing to the Standard European Series, Otosporin® and Xerumenex® was then carried out, with negative results to all except Xerumenex® which gave a ++ reaction at 48 h.

The manufacturers of the preparation kindly provided samples of its separate ingredients, each at the concentration in which it occurs in the proprietary preparation and in the manufacturer's vehicle (propylene glycol = PG). Concentrations in the supplied samples were w/w; further dilutions for testing were v/v using our own stock PG. Further patch tests were carried out three months after her original presentation, with the results shown in Table 1.

Comment

There has been one previous report of sensitivity to Xerumenex® ear drops (Grice & Johnstone 1972) giving a positive patch test response to triethanolamine oleyl polypeptide but not to triethanolamine. Several patients have been seen in the Contact Clinic at St. John's Hospital for Diseases of the Skin, Leicester Square, London, with apparent sensitivity to Xerumenex®, but patch testing has shown an irritant response only to the proprietary preparation, with no positive results on testing to the individual ingredients (Cronin 1976 - personal communication). Xerumenex® is a widely used preparation in General Practice and Ear, Nose and Throat (ENT) Clinics. Mr. J. T. Little, ENT Consultant at this hospital has made extensive use of the prepara-

tion, but hitherto has had no cases of sensitivity (personal communication). Our patient, therefore, is the second reported and confirmed case of specific contact dermatitis to an ingredient of Xerumenex®.

References

- Grice, K. & Johnstone, C. I. (1972) Contact Dermatitis from Xerumenex. *British Medical Journal* 1, 508.
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Non-proprietary names of drugs

Xerumenex (Napp Laboratories): Triethanolamine polypeptide oleate-condensate 10% drops.

Otosporin (Wellcome):

Polymyxin B sulph. 10,000 units

Neomycin sulph. 3,400 units

Hydrocortisone 10 mg per ml; drops.

Aureomycin (Lederle):

Tetracycline hydrochloride 3% ointment.

Table 1. Results of patch tests

	48 h
Standard European Series	—
Xerumenex ear drops	+++ (bullous)
Triethanolamine oleyl polypeptide 10% in PG*	+++
Triethanolamine oleyl polypeptide 1% in PG	++
Chlorbutol 0.5% in PG*	—
Chlorbutol 0.05% in PG	—
PG vehicle	—
Xerumenex : PG 1 : 3 (One quarter strength)	+++ (bullous)
PG control from own stock	—

* Concentrations w/w as present in proprietary preparation, as supplied by manufacturer. Dilutions v/v in own stock PG (Propylene Glycol)

Grading according to International Group Classification (Wilkinson et al. 1970)

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