

Short Communication

Allergic contact dermatitis from a bismuth compound in an eye ointment

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Key words: bibrocathol; bismuth oxide; medicaments; allergic contact dermatitis; ophthalmics. © Munksgaard, 2001.

Bismuth is used topically for bacteriostasis. Sensitization to bismuth derivatives has been reported (1–3) but is rare.

Case Report

A 33-year-old woman presented with a history of atopic hand eczema and allergic rhinitis. Because of periorbital dermatitis, she was treated with Noviform[®], a bibrocathol-containing eye ointment. She noticed an exacerbation of her dermatitis after such treatment.

She was patch tested to the European standard series and to Noviform[®]. On D4, the tests proved + for formaldehyde and potassium dichromate and ++ for Noviform[®] as is. On D7, only formaldehyde and Noviform[®] persisted. The molecules which form bibrocathol, bismuth oxide and tetrabromocatechol, were tested together with Noviform[®] in a 2nd series of patch tests. On D4 and D7, the tests were +++ for bismuth oxide (5% pet.) and ++ for Noviform[®] as is (Table 1). No reaction was found to tetrabromocatechol. 10 controls were negative to Noviform[®] and bismuth oxide.

Comment

This patient showed a positive patch test reaction to Noviform[®], an eye ointment she had used previously. The ointment as it was used for patch testing since the active component, bibrocathol, was not available in pure form from the manufacturer. However, bibrocathol is a bis-

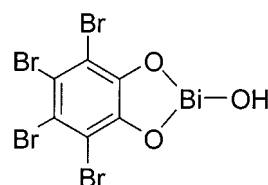


Fig. 1. Bibrocathol.

muth oxide-tetrabromocatechol complex (Fig. 1). This complex should to some extent be dissociated under physiologic conditions into its 2 components. Therefore, these 2 components were tested at the same concentration as bibrocathol in Noviform[®]. The strong positive reaction to bismuth oxide indicates that this inorganic compound, and not the complex bibrocathol, is the main hapten.

Bismuth compounds have been used for many decades as antiseptics in the treatment of leg ulcers and contact dermatitis from bismuth compounds is described in older textbooks. Today, bismuth has been replaced by modern antibiotics and reports of contact dermatitis from bismuth compounds are very rare in the modern literature (1–3). We could find no report of positive patch test reactions to bibrocatechol or bismuth oxide before.

References

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Table 1. Noviform[®] and related compounds tested (only D4 readings presented)

	Conc. (% pet.)	D4
Noviform [®] (5% bibrocathol)	as is	++
	30	+
	10	?+
	3	–
bismuth oxide	5	+++
	2	++
	0.5	+
	0.1	?+
tetrabromocatechol	5	–