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Facial contact dermatitis due to metronidazole

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Key words: metronidazole; imidazole derivatives; cross-reaction; medicaments; antifungals. © Munksgaard, 1997.

Metronidazole is an imidazole derivative used against trichomonas, giardiasis, amebiasis and anaerobic bacteria. Furthermore, it is widely used, both orally and topically, in the treatment of rosacea (1).

Case Report

A 26-year-old girl had a 6-month history of an acute itchy erythematous-vesicular eruption of the central face and forehead. She had been treated with topical corticosteroids and antibiotics, without benefit. She had also been treated with 1% topical metronidazole gel (Same®).

Patch tests with the GIRDCA standard series and her topical medicaments revealed a positive reaction to metronidazole gel at D2 and D3. We subsequently performed patch tests with metronidazole 1% pet. and all the ingredients of the gel, together with the other imidazole derivatives listed in Table 1.

Discussion

Imidazoles are widely used in the treatment of superficial mycoses, but seldom reported as the cause of allergic contact dermatitis (2-4, 8). Studies on the sensitizing capacity of imidazole derivatives performed on guinea pigs stated that they are weak sensitizers. Only 2 cases of positive reactions to metronidazole have been reported (4, 6). A possible cross-reaction between imidazoles with

Table 1. Patch test results with metronidazole and other imidazoles

Substance	(%)	D2	D3
metronidazole	1 % pet.	+	++
tioconazole	1 % pet.	-	-
miconazole	2 % pet.	-	-
econazole	1 % pet.	-	-
clotrimazole	2 % pet.	-	-
bifonazole	2 % pet.	-	-

a similar molecular structure has been observed (5, 7). However, a case of allergic contact dermatitis from tioconazole (a phenylethyl imidazole) with a cross-reaction to bifonazole (a phenylmethyl imidazole) and metronidazole (a nitroimidazole) was reported by Izu et al. (6). Most cases of cross-reactions observed by other authors occurred between imidazoles of the same group (5, 7, 9-15).

Although some authors have tried to investigate the allergenic determinants in the chemical structures of the imidazoles (6), according to Dooms-Goossens et al. (16), further studies are needed before correct identification can be obtained.

In our case, no cross-reactions were observed between the imidazole derivatives patch tested. We suggest that, in patients sensitized to an imidazole, possible cross-reaction should be investigated by patch testing other imidazole derivatives.

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Allergic contact dermatitis from tea tree oil in a wart paint

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Key words: allergic contact dermatitis; tea tree oil; *Melaleuca alternifolia*; wart paint; herbal remedies. © Munksgaard, 1997.

Case Report

A 74-year-old man presented in June 1995 with a 4-month history of blistering dermatitis over the right temple and, on a separate occasion, on the dorsum of the left hand. He had treated 2 seborrhoeic warts in these areas with a wart paint, containing tea tree oil, acquired across the counter of a local health shop. The dermatitis occurred within 24 h of application. He was treated successfully with topical corticosteroids.

Patch testing (Finn Chambers and Scanpor Tape) was performed with the European standard series and tea tree oil at a dilution of 1% aq. Additionally, dipentene, abietic acid, abitol, dibutylphthalate, eucalyptus oil and turpentine peroxides were tested. At 3 days, a papulovesicular reaction at the site of an open test to tea tree oil (+++) and an erythematopapular reaction (++) to tea tree oil 1% aq. were seen. A ++ reaction was also seen to fragrance mix, though no reactions were seen to its individual constituents. 50 controls showed no reaction to tea tree oil at 1% and 5% aq.

Discussion

In 1925, Penfold (1) determined the main constituents of tea tree oil, an essential oil extracted by steam distil-

lation from the leaves and terminal branchlets of *Melaleuca alternifolia* Cheel, a tree indigenous to New South Wales, Australia. Gas chromatography has elucidated the constituents of tea tree oil, which include terpinen-4-ol and 1,8 cineole (2). The oil has been used in a variety of skin conditions, including acne, and has been found to have significant antimicrobial activity (3).

Contact allergy to tea tree oil was first reported in 1991 by Apted (4) and systemic contact dermatitis due to ingestion of the oil has also been described (5). In our case, the main reported culprits in contact allergy to tea tree oil, such as eucalyptus oil and colophony (6), were found to be negative. Allergic contact dermatitis from tea tree oil in a wart paint has not previously been described, and draws our attention to the presence of this substance in a variety of 'over-the-counter' medications.

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