



Fig. 1. Scaly erythema on the toes of both feet.

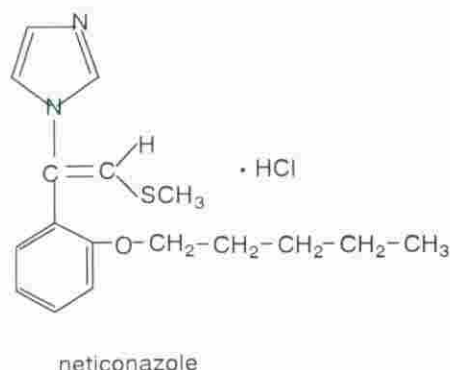


Fig. 2. Structural formula of neticonazole.

Discussion

Neticonazole, a vinyl imidazole derivative (Fig. 2), is a newly developed antifungal drug in use since 1995. Contact allergy due to neticonazole has not been reported in the literature. Another vinyl imidazole, croconazole, has caused contact sensitivity (1). Cross-sensitization between 2-(2,4-dichlorophenyl)-ethyl imidazoles, e.g. econazole, isoconazole, miconazole, oxiconazole, and sulconazole, is well-known (2–5). Our case cross-reacted to econazole and sulconazole, but not to croconazole, suggesting that the vinyl base may not be related to the antigenic determinant. Non-imidazole drugs (morpholine, benzylamine, or allylamine) should be prescribed in these patients.

References

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Allergic contact dermatitis from curcumin (turmeric)*

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Key words: *Curcuma longa* (turmeric); spice; coloring matter; allergic contact dermatitis; ginger; curcumin; cinnamic aldehyde; cinnamic alcohol. © Munksgaard, 1997.

Case Report

31-year-old woman visited our clinic complaining of erythema on the dorsa of her hands. She had suffered from these eruptions for 1 year and had applied 6 kinds of topical medicaments for 10 weeks, including *Chuu-ou-kou*, but the lesions had become worse 2 weeks earlier. Clinical examination showed clearly-bordered edematous erythema, papules, and vesicles, with itching on

the dorsa of her hands. Diflucortolone valerate ointment was applied and the lesions disappeared.

Each medicament that the patient had used was patch tested (as is). Only *Chuu-ou-kou* was positive while the others were negative. Then, every ingredient of *Chuu-ou-kou* was patch tested. The active ingredient of *Chuu-ou-kou*, *Curcuma longa*, was positive and the other components negative. *Curcuma longa* was positive at 2.5% (that in *Chuu-ou-kou*), 1.25%, and 0.25% pet. The main component of *Curcuma longa* (turmeric) is curcumin (containing 0.5%), the coloring matter. The rest is the essential oil, which consists of turmerone, dihydroturmerone, zingiberene, d- α -phellandrene, and cinerol. In this pa-

* This case was presented at the 20th Annual Meeting of the Japan Society for Contact Dermatitis.

Table 1. Results of initial patch test

	Conc/veh	D2	D3	D7
<i>Chuu-ou-kou</i>		—	++	+
<i>Curcuma longa</i>	2.5% pet.	++	++	+
(turmeric)	1.25% pet.	++	++	+
	0.25% pet.	++	++	+
other ingredients		—	—	—
others		—	—	—
curcumin	1.0% pet.	++	++	+
	0.5% pet.	++	++	+
	0.1% pet.	++	++	+

Reading according to ICDRG recommendations

tient, only curcumin was positive at 1%, 0.5%, and 0.1% pet., and the essential oil was negative (Table 1).

Additional patch tests were carried out with *kankyo* (dried ginger), of the same family as *Curcuma longa*, cinnamic aldehyde and cinnamic alcohol, whose chemical structures are similar to that of curcumin, curry powder, and vanilla essence. They were positive except for vanilla essence (Table 2). Positive reactions persisted for 7 days. As controls, 30 outpatients were patch tested with the following agents and none was positive: *Curcuma longa* 2.5%, 1.25%, 0.25% pet., curcumin 1.0% pet., *kankyo* (dried ginger) 25% pet., curry powder 25% pet., and vanilla essence 10% pet.

Table 2. Results of subsequent patch tests

	Conc/veh	D2	D3	D7
ginger	25.0% pet.	+	++	++
	12.5% pet.	+	++	++
	2.5% pet.	+	++	++
cinnamic aldehyde	1.0% pet.	+	+	+
	0.5% pet.	+	+	+
	0.1% pet.	?+	?+	—
cinnamic alcohol	1.0% lanolin	+	++	++
curry powder	25.0% pet.	++	++	++
	12.5% pet.	++	++	++
	2.5% pet.	++	++	++
vanilla essence	10.0% pet.	—	—	—

Reading according to ICDRG recommendations.

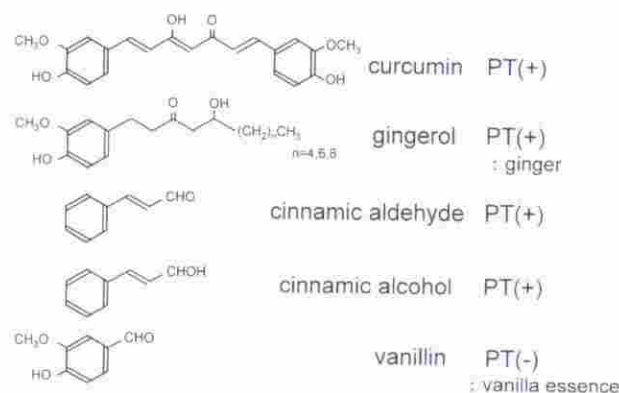


Fig. 1. Chemical structures.

Discussion

Turmeric is made from the root of *Curcuma longa*, a medicinal plant of the ginger family (1, 2). It has both Chinese medical and culinary uses. *Curcuma longa* originated in India and tropical Asia. It came to Japan during the Edo era, and was grown for medical or appreciating purposes. *Chuu-ou-kou* was named and spread by Seisyu Hanaoka (1760–1835), a Japanese surgeon. It is still cultivated a little in southern Japan, but the *Curcuma longa* that this patient used had been imported from India.

Goh et al. (1) reported a case of occupational dermatitis in a spice dealer caused by curry powder and *Curcuma longa*, but no other case of contact dermatitis from curcumin, the main component of *Curcuma longa*, has been reported. In our case, *kankyo* of the ginger family, cinnamic aldehyde and cinnamic alcohol, tested positively. However, vanilla essence, including vanillin which has a benzene ring in common, tested negatively. Therefore, the aryl group connecting to the benzene ring is considered to have antigenic activity (Fig. 1).

References

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