

Occupational allergic contact dermatitis from cassia (Chinese cinnamon) as a flavouring agent in coffee

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Case Report

A 52-year-old man had had hand eczema for the last 3 months, which cleared with a 15-day holiday, but relapsed on his return. He had had no previous skin disorders. He has been working for 10 years as a waiter in a coffee house, in which they added natural cassia extract and synthetic vanillin as flavouring agents to the coffee. The patient recovered after he was advised to avoid contact with cassia and is still asymptomatic and working.

Patch testing, using Finn ChambersTM, to the European standard series showed positive reactions to fragrance mix and balsam of Peru at D2 and D3, and to colophony at D3. A positive reaction at D3 was also obtained with clove oil 25% pet. and extremely positive reactions (D2 and D3) were obtained with natural cassia extract 2% pet and 5% o.o., and cinnamic aldehyde 1% pet., whereas 5 controls were negative to all of these. Patch tests were negative with clove oil 2% pet., synthetic vanillin 10% pet. and eugenol 1% pet.

Discussion

Oil of cinnamon is usually extracted from the bark of the cassia tree (Chinese cinnamon), and is used as a flavouring agent. Occupational allergic contact dermatitis from it has been observed in bakers, candy makers, cooks and housewives (1). We describe for the 1st time contact with coffee as a cause of occupational allergic

contact dermatitis from oil of cinnamon (cassia). Early detection of this sensitivity enabled preventive measures to be introduced that shortened the duration of the patient's dermatitis.

Cross-sensitization to fragrance mix, balsam of Peru and colophony resulted from primary sensitivity to oil of cinnamon. All of these are considered indicators of allergy to spices (2, 3). Cross-sensitization to oil of clove, which is one of the most often reported individual spices to cause contact allergy (2, 4), is suggested by the positive patch test to 25% pet.

Oil of cinnamon contains 2 allergens: cinnamic aldehyde and eugenol. The former showed a positive patch test (++) at 1% pet. Cinnamic aldehyde may represent the primary allergen, since it is present in at least 3 of the other 4 positive patch tests: fragrance mix, balsam of Peru and clove oil.

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The recognition of occupational allergic contact dermatitis in Warsaw

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Key words: occupational allergic contact dermatitis; health service workers. © Munksgaard, 1999.

In Warsaw, in the period from 1 September 1993 to 30 June 1998, 139 patients were recognized as having occupational allergic contact dermatitis (average 18.5 patients a year). These numbers were clearly smaller than those during the period of 1979–82, when at the same health center, at least 1 occupational allergen was detected in 300 dermatitis patients. This gives an average

of 75 patients a year, 3× more than in the later period (1).

Until 1990, when the economy in Poland was socialist, patients themselves were interested in being recognized as having occupational disease, because such a status gave them a whole range of privileges. The patients cooperated fully with the doctors, giving them vital infor-

Table 1. % of patients with occupational allergens detected after various periods

Latent period under:	All patients		Health service workers	
	1979–82 (n=300)	1993–98 (n=139)	1979–82 (n=30)	1993–98 (n=35)
3 months	15.7	15.8	36.7	37.1 ²⁾
1 year	39.7	56.1 ¹⁾	63.4	71.4 ²⁾
5 years	70.0	79.1 ¹⁾	90.0	100.0 ²⁾
10 years	87.0	93.5 ¹⁾	96.7	–

¹⁾ $p < 0.05$ (comparison of total patients during 2 periods: 1979–82 and 1993–98).

²⁾ $p < 0.05$ (comparison during the period 1993–98 – all patients and health service workers).

mation about sometimes even rare contactants. Currently, the situation has changed due to increasing privatization of the economy. The patients, afraid of losing their jobs when compensation for occupational diseases is relatively low, more often decline to be tested and do not attend for follow-up examinations. It is difficult, therefore, to be sure how much the decrease in recognition of occupational dermatitis cases is due to improvement in working conditions, and how much the result of changed social conditions.

The delay in recognizing occupational allergic contact dermatitis has changed relatively little. In 1993, we reported that in Warsaw (1), cases of occupational derma-

titis were being recognized significantly later than in Lund 1975 (2).

Table 1 compares the situation in Warsaw in 2 periods: 1979–82 and 1993–98, with regard to total number of patients and health service workers. For the total number of patients, the situation improved only in patients who were sick for longer than 3 months, and the observed differences were statistically significant ($p < 0.05$). However, it is still rare to recognize occupational dermatitis during the 1st 3 months of the illness. The situation is much better among the health service workers, who have easier access to specialists. In this group, in comparison with the total number of patients, occupational dermatitis was recognized in a statistically significant higher % of patients, the same after 3 months as after 1-year and 5-year periods.

During the 5-year period of allergic contact dermatitis duration, its occupational character was recognized among all patients only in the group of health service workers. Both before and now, the main reason for delay in recognizing occupational dermatitis was late referral for specialist opinion and patch testing.

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Occupational dermatoses among laboratory assistants

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Key words: rubber chemicals; natural rubber latex; allergic contact dermatitis; occupational; epidemiology; laboratory workers. © Munksgaard, 1999.

Laboratory workers run a high risk of occupational dermatoses but little, besides case reports, has been published (1).

Methods and Results

Data on occupational dermatoses among laboratory workers in Finland during 1990–1996 were analyzed. Statistics on occupational diseases and classification of occupations from the Finnish Register of Occupational diseases were compiled as previously described (2–5). Allergic dermatoses diagnosed during 1975–1996 at the Finnish Institute of Occupational Health (FIOH) among laboratory assistants in chemical laboratories were compiled from case records. Diagnostic criteria have been reported earlier (2). The cases at FIOH during 1990–1996 are among those in the whole country.

Altogether, 83 cases of occupational dermatoses were reported to the Finnish Register of Occupational Dis-

eases during 1990–1996 from among about 12,000 employed laboratory assistants. Of the 83 cases, 31 were allergic contact dermatitis (ACD), 20 irritant contact dermatitis (ICD), and 18 contact urticaria (CU, including protein contact dermatitis). In addition, 6 cases were unspecified (allergic/irritant) contact dermatitis, 7 other dermatoses (mainly chemical burns), and 1 not specified.

The causes of ACD and CU are given in Table 1. The causes of ICD (20 cases) were: wet work (3 cases), soaps and detergents (3 cases), physical and mechanical (3 cases), barley flour, grains or animal feed (2 cases), and clay, inorganic acids and alkalis, molds, phenol-formaldehyde resin and salicylic acid (1 case each), not notified chemical agents (3 cases), and other not notified agents (1 case).

The incidence rate of contact urticaria from natural rubber latex per 10,000 employed worker years in laboratory assistants was 1.0, compared to 0.2 in all occu-