

latex, inhalation of airborne allergen bound to glove powder persisted (her coworkers kept using latex gloves), explaining worsening of the allergy and, eventually, cross-sensitization to food allergens.

Simultaneous sensitization to latex and fruits such as banana, kiwi, chestnut and avocado is well-known. Recent reports suggest, however, that the spectrum of food allergens cross-reacting with latex is much broader (3). *Capsicum annuum* is a newly reported cross-reacting food. We are aware of only 1 previous report of pepper sensitization in latex-allergic patients (4).

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## Pigmented contact dermatitis due to Naphthol AS in a pillowcase

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**Key words:** pigmented contact dermatitis; Naphthol AS; pillowcase; azo dye coupling agent; textiles. © Munksgaard, 1997.

### Case Report

A 66-year-old man presented in March 1995 with a 1-year history of facial dermatitis. Diffuse brownish pigmentation was present on the neck and submandibular region around the right earlobe (Fig. 1). The patient had felt slight itching around this ear soon after he had begun to use a cotton pillowcase, and facial pigmentation had subsequently developed over several months. The skin lesions did not improve after treatment with topical corticosteroids. Histopathological examination showed slight atrophy of the epidermis and liquefaction degeneration of the basal cells. In the upper dermis, band-like lymphocytic infiltration and pigmentary incontinence were seen.

Patch tests with the original cotton pillowcase (as is) and Naphthol AS (1% pet.), used as a coupling agent for dyeing the pillowcase, showed positive (+) reactions at 2 and 3 days.

### Discussion

Both the clinical and histopathological features of the present case are consistent with pigmented contact dermatitis (1). More than 20 cases of pigmented contact dermatitis due to Naphthol AS have been reported in Japan since 1983 (2, 3). In almost all such cases, hyperpigmentation developed after wearing flannel nightwear for several years, but our case is the 1st due to Naphthol AS in a cotton pillowcase, and pigmentation developed within a shorter period. This may have been due to the pillowcase being used every day, whereas flannel nightwear is used mainly in winter.

Naphthol AS is an azo dye coupling agent used in the dyeing of cotton fabrics. As it is almost insoluble in water, it is thought to remain on the textile even after



Fig. 1. Brownish pigmentation on the neck and submandibular region.

many washes and was thus able to cause pigmented contact dermatitis in our patient.

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## Occupational contact dermatitis from anethole in food handlers

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**Key words:** occupational; allergic contact dermatitis; food handlers; anise oil; anethole; Kathon® CG; Roman chamomile; cosmetics. © Munksgaard, 1997.

### Case Reports

#### Case no. 1.

A 39-year-old woman presented with dermatitis on both hands, which had resisted treatment for 20 years, and clearly worsened at work, where she cooked traditional Seville cakes. Lesions spread up the forearms, and rhinitis and blepharitis occurred whenever she entered the cake factory. Her IgE level was normal. Patch tests with the GEIDC standard series, fragrances, plants, cake ingredients (flour, yeast, sugar, honey, salt, anise oil and sesame) were performed, with a ++ reaction only to anise oil (5% o.o.) at 2 and 4 days. Anethole, the main component of anise oil, gave a ++ reaction in the patient at 5% pet. on D2 and D4.

#### Case no. 2.

A 38-year-old woman, who worked at the same cake factory as case no. 1, presented with severe dermatitis on the hands, forearms, scalp and face. Rhinitis and blepharitis broke out as soon as she entered the factory, even before she handled the products. She also had psoriasis on the knees and elbows. Her IgE level was normal. Patch tests with the GEIDC standard series, fragrances, plants and cake ingredients were positive at 2 and 4 days to Kathon® CG (++), anise oil (5% o. o.) (++), anethole (5% pet) (+) and Roman chamomile (+++).

### Discussion

Anethole is the main component of anise, star anise and fennel oils. It is commonly used in the food and cosmetic industries, particularly in soaps and toothpastes, as a sensitizer in bleaching colours in colour photography, and as an imbedding material (1). Anethole, 1-methoxy-4-(1-propenyl)benzene (C<sub>10</sub>H<sub>12</sub>O), is chemically similar to eugenol, though there is no cross-reaction between them (2). In a human maximization test, anethole 2% pet.

produced no sensitization, and the maximum concentration of anethole in final products is about 0.25% (1). Star anise, in contrast, when patch tested at 1–2%, actively sensitized 5% of the patients tested; however, it also contains  $\alpha$ -pinene, limonene and safrole, as well as anethole (3). It is used in many toothpastes, and is sometimes responsible for intolerance to them (4).

There are few publications on allergic contact dermatitis from anethole, and it usually presents as intolerance to toothpaste (1, 5). Our cases appear to be the first reports of allergic contact dermatitis from anethole in food handlers.

Kathon® and chamomile allergy in the 2nd case had a cosmetic origin, related to a shampoo with herbal extracts containing both. Though some authors report a high frequency of Roman chamomile sensitization, we could find only 2 case reports in relation to drug reactions. However, there is much confusion between the 2 types of chamomile (Roman and German), which some publications fail to clarify (6, 7).

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