

Occupational allergy to cinnamal in a baker

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Introduction

Contact dermatitis of hands is frequent among bakers and, as in other subjects doing 'wet work' and/or exposed to powders, is classically irritant in origin (1). This often results in allergic causes being overlooked and, consequently, not investigated adequately, despite the multiple potential allergens in the workplace. We present a case of occupational hand eczema caused by a well-known and common hapten, typically present in bakeries, but infrequently reported (and probably underestimated) as a possible cause of contact allergy in bakers.

Case History

A 33-year-old man, who had been a baker since the age of 18 years, presented with itching eczematous lesions on his hands, which had appeared about 1 month earlier. Limited and temporary relief was reported on days off work and when topical corticosteroids were used.

Prick tests with commercial extracts of common aeroallergens, food allergens and latex (Alk-Abellø, Hørsholm, Denmark) gave negative results. Patch tests were performed with the Italian Society of Allergological, Occupational and Environmental Dermatology baseline series, the

bakers series, latex and dust mites (FIRMA, Florence, Italy), in Hayes' chambers (Hayes Service BV, Alphen, The Netherlands). Readings at D2 and D4 according to International Contact Dermatitis Research Group guidelines showed sensitization to fragrance mix I and cinnamal (+++ on D2 and D4 for both). The patient denied contact with fragrances, particularly after the onset of the lesions (following medical advice, he had used fragrance-free products for personal hygiene). However, on closer questioning, he revealed that in the last 3 months he had changed his workplace and work habits, switching from production of bread to the preparation of sweet bakery goods. He was required to knead many ingredients, including cinnamon. Subsequent patch tests with the individual components of fragrance mix I showed sensitization also to cinnamyl alcohol (+++ on both D2 and D4). With correct use of individual protection devices (latex, nitrile or polyvinylchloride gloves), resolution of the lesions occurred in about 4 weeks, with no relapses over 6 months.

Discussion

Cinnamon (*Cinnamomum verum* or *Cinnamomum zeylanicum*) is a small evergreen tree of the family Lauraceae. From ancient times, its bark has been used in food and cosmetics, because of its flavour, and sometimes as a medicine (2). Cinnamon bark extract frequently causes contact allergy in the general population, probably also because of its diffusion, and as a 'hidden' hapten.

Occupational exposure to cinnamon in bakeries is common, and occurs in environmental conditions that notoriously favour the development of contact allergy (high temperature, and contact with water, powders, and sometimes irritants). Surprisingly, reports of cinnamon allergy in bakers are much rarer than in the general population. There are only two published papers on this topic: a case report similar to ours (1), and a study on 1346 bakers and food handlers that revealed, among bakers, 10 cases of occupational allergic contact dermatitis, some of which were attributable to cinnamates (3). We believe that this is unlikely to represent the real magnitude of the problem. Our report underlines the need for accurate investigation of possible allergy, particularly to cinnamon, in bakers with

hand eczema; to this end, both cinnamal and cinnamyl alcohol should be included in commercial bakery series.

Conflicts of interest: The authors have declared no conflicts.

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