

Occupational contact urticaria from Parmesan cheese

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The term ‘contact urticaria’ was introduced by Fisher in 1973 (1) to describe a wheal and flare reaction in the skin occurring after contact with a substance. Repeated episodes of contact urticaria may result in the development of dermatitis, termed ‘protein contact dermatitis’ (2).

Case Report

A 35-year-old sandwich shop proprietor presented with a 6-month history of vesicular dermatitis affecting the sides of her fingers, fingertips and right hand. The rash spread to affect her forearms, wrists, elbows and right leg. The rash had started soon after she had assumed ownership of a sandwich shop, where her work

involved sandwich making and preparation of fruit juices. She described her rash flaring after contact with various foodstuffs and detergents. She occasionally wore vinyl gloves for food preparation and rubber gloves for cleaning. She had a history of childhood eczema. She was patch tested to an extended European standard series, the rubber series (Chemotechnique Diagnostics, Malmö, Sweden) and her own samples applied on Finn chambers® on Scanpor® (Epitest, Tuusula, Finland). Patches were applied for 2 days, and readings were taken on day (D) 2 and D5. She was also prick tested to a variety of her own foodstuffs. Patch testing showed positive reactions on D2 and D5 to tetraethylthiuram disulfide and dipentamethylenethiuram disulfide, but not the thiuram mix. On prick testing, she developed a wheal response to her own Parmesan cheese. The diagnoses made were (i) occupational contact urticaria to Parmesan cheese; (ii) allergic contact dermatitis to thiurams, likely to have been related to the use of reusable rubber gloves and (iii) irritant contact dermatitis from wet work. The patient was advised to avoid contact with Parmesan cheese by using vinyl gloves and to wear reusable polyvinyl chloride gloves instead of rubber gloves. The patient has since changed occupation, and has had no further recurrence of symptoms. Prick testing to Parmesan cheese has been negative in 10 asymptomatic controls.

Discussion

While contact urticaria to milk has previously been reported (3, 4), we were unable to find existing reports of Parmesan cheese causing contact urticaria or protein contact dermatitis. Within the European Union, Parmesan cheese refers to the Italian cheese Parmigiano Reggiano DOP (protected designation of origin), made in Parma or Reggio Emilia. Elsewhere, the term is used to describe cheeses resembling the original, but made in other locations. Both Parmesan and Parmigiano Reggiano DOP are hard, grainy cheeses produced from pasteurized or nonpasteurized milk, to which is added cheese cultures, enzymes and salt. However, there are several differences between Parmesan and Parmigiano Reggiano DOP: Parmesan is aged for a shorter time (10

months compared with 24 months), resulting in a more subtle flavour; the curds are larger in Parmesan cheese, so the cheese must be mechanically pressed to remove the moisture and the final Parmesan cheese wheel is smaller than Parmigiano Reggiano DOP (24 pounds weight compared with 80 pounds), meaning that the cheese is more saturated with salt during the brining process. It would be interesting to clarify whether it is the milk protein or the cheese enzymes responsible for the contact urticaria. Interestingly, food handlers were the occupational group in whom Hjorth and Roed-Petersen first described protein contact dermatitis (2), and this report highlights the importance of such occupational exposure in this industry grouping. It also highlights the fact that there are often multiple factors contributing to occupational hand dermatitis.

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