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Unsuspected source of occupational allergic contact dermatitis to epoxy resin

Fuente insospechada de dermatitis por contacto ocupacional de tipo alérgico a la resina epóxica

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Epoxy resins are substances widely used in the industrial sector, being present in several occupations.¹ Because of their prevalent use and high sensitizing capacity, they are a frequent cause of occupational allergic contact dermatitis. We describe an unsuspected source of occupational exposure to epoxy resins in the perfume industry workers.

CASE REPORT

A 37-year-old-female, with no relevant medical history, was sent to our Department because of two episodes of pruritic facial skin lesions in the same week. She worked as a production line operator in a perfume factory for 6 years. As protective individual equipment, she wore cotton and vinyl gloves, sometimes glasses but never mask.

On physical examination she presented asymmetrical facial erythema and oedema of the eyelids. The lesions disappeared in 24 hours approximately, after leaving the workplace. Patch testing was performed with the Spanish Contact Dermatitis Society baseline series (True Test[®] and Chemotechnique Diagnostics AB[®]), and also with Fragrance series (Chemotechnique Diagnostics AB[®]). The patches were removed on day 2. Readings at day 2 and 3 showed positive reactions to nickel (++) (past relevance) and epoxy resins (++) . The patient was again questioned in order to identify the relevance of the positive patch test to epoxy resin.

Working as a production line operator, the patient has to pack, fill, label and package around 700 perfumes per hour in a normal working day. During the preparation process of the container, a dosing valve is placed in the container's neck, which in then glued with an adhesive (Figure 1). The patient provided the adhesive material



Figure 1. Preparation process of the container: a dosing valve is placed in the container's neck, which in then glued with an adhesive.



Figure 2. Preparation process of the container: the adhesive material used, Araldit[®] Standard, is composed of two components based on a epoxy resin of Bisphenol A with a polyamine hardener. The patient added both substances in another container and then applied the mix on the neck of the recipient.

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safety data sheet (MSDS): Araldit® Standard, which has two components based on an epoxy resin of Bisphenol A with a polyamine hardener (Figure 2). She had been exposed discontinuously to this substance for three years.

COMMENT

Epoxy resins represent the third most frequent cause of occupational allergic contact dermatitis after chromium and rubber components, and it's the first cause in individuals working with plastics.² Epoxy resins have excellent properties like high hardness and heat, water and chemical resistance, what explain their wide use in the industrial sector.^{2,3} Also they are frequently used as adhesives, which require adding a hardener just before their application.

Due to the high sensitizing capacity, when manipulating epoxy resin wearing gloves and mask is mandatory. The use of gloves is widely extended but not the use of facial mask, so airborne allergic contact dermatitis is very frequent, especially in workplaces with poor ventilation systems.

In conclusion, with this case report we emphasize the importance of a detailed anamnesis regarding the patient occupation when a positive result to epoxy resins is found on patch testing, because the main source of their sensitization is of occupational origin.

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