

Please, label the label; a case report of occupational allergic contact dermatitis caused by methylisothiazolinone in adhesive labels

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Contact allergy to the preservative methylisothiazolinone (MI) is attributable to occupational exposure in approximately one-third of sensitized patients (1). Here, we present a case report of occupational allergic contact dermatitis in a pharmaceutical production worker, caused by exposure to MI in adhesive labels.

Case Report

A 28-year-old woman with a history of atopic dermatitis presented with a 1-year history of hand eczema involving the second to fourth fingers on both hands (Fig. 1). For the last couple of years she had been working at a pharmaceutical production facility, operating a machine used for automatic labelling of insulin pens. Work routines included manual contact with the adhesive side of the labels during start-up, maintenance and troubleshooting



Fig. 1. Right index finger of the patient.

of the labelling machine. Further work routines during which the patient was in contact with the labels included removing the labels from faulty insulin pens and packaging of pens ready for shipment. Gloves were never used. Owing to other health-related issues, the patient had been absent from work for the last month, resulting in significant improvement of her hand eczema.

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Table 1. Positive and doubtful patch test results

Allergen	D2	D3	D7
<i>Myroxylon pereirae</i> (balsam of Peru) 25% pet.	–	?+	–
Nickel sulfate 5% pet.	++	++	?+
MCI/MI 0.01% aq.	?+	?+	?+
Tixocortol pivalate 0.1% pet.	–	?+	–
Methylisothiazolinone 0.2% aq.	+	+	?+
Linalool hydroperoxides 1% pet.	?+	?+	IR
Palladium chloride 2% pet.	?+	++	?+

IR, irritant response; MCI/MI, methylchloroisothiazolinone/methylisothiazolinone; ?+, doubtful reaction.

The patient was patch tested with our baseline series (Almirall Hermal GmbH, Reinbek, Germany), by the use of Finn Chambers® (8 mm; Smartpractice, Phoenix, AZ, USA), applied on the upper back for 48 h with Scanpor® tape (Norgesplaster, Vennesla, Norway). Readings were performed on day (D)2, D3 and D7 according to international guidelines (2). Positive and doubtful reactions are shown in Table 1. No sources of nickel exposure could be identified domestically or in the patient's work environment. On request, the patient's employer contacted the manufacturer of the labels, and was informed that both MI and methylchloroisothiazolinone (MCI) were components of the adhesive present in the labels. No information on the concentrations of MI or MCI in the adhesive labels was provided.

Discussion

A recent survey on isothiazolinones present in commercial products in Danish workplaces identified 17 adhesive products with a mean concentration of MI of 47.6 ppm (3). Unfortunately, no information on the concentration of MI in the adhesive labels causing occupational allergic dermatitis in this patient was available. With the current European Chemicals Agency (ECHA) Classification, Labelling and Packaging regulation (Regulation No. 1272/2008), industry is only obliged to state the presence of MI on safety data sheets when the generic concentration exceeds 1000 ppm in chemical products (4). In comparison, the MCI/MI mixture in a 3:1 ratio has a limit of 15 ppm for warning in chemical products and 1/10 of this for ingredient information. We do not know whether MI and MCI were present in the adhesive component of the labels as a mixture or as individual ingredients. The Scientific Committee on Consumer Safety, which advises the European Commission, has recently concluded that no safe concentration of MI in leave-on cosmetic products can be established with regard to avoiding sensitization (5). The ECHA limit for MI is currently being revised (6). This case report adds to the growing list of identified occupational exposures to MI with the potential to cause debilitating allergic contact dermatitis. The need for improved regulation and transparent labelling of industrial products containing MI seems obvious.

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