

Undisclosed methylisothiazolinone in an ultrasound gel causing occupational allergic contact dermatitis

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Most cases of methylisothiazolinone (MI) allergic contact dermatitis are allegedly caused by non-occupational exposure to cosmetics and consumer products as water-based paints. Occupational allergic contact dermatitis caused by MI occurs in painters, tile setters,

and machine operators (1–3). We present, to our knowledge, the first case of occupational allergic contact dermatitis in a nurse exposed to MI in an ultrasound gel.

Case Report

A 47-year-old female nurse with no history of allergy, who had been working for the past 8 years in an obstetric department, developed dermatitis on the dorsum of both hands and the right forearm when in contact with EKO GEL® (CA.MI.NA. S.r.l., Egna, Italy), which she used

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when performing ultrasound scans of pregnant women. She had been using the EKO GEL[®] on a daily basis for the past 8 years. She used gloves to avoid hand contact with the gel, with some effect. The dermatitis disappeared during holidays. The labelled constituents of the EKO GEL[®] were propylene glycol, demineralized water, and other components (not declared) for cosmetic use at concentrations between 0.033% and 0.5%. Patch tests with the European baseline series [TRUE Test[®] panel 1–3 (SmartPractice, Hillerød, Denmark)] supplemented with the remaining baseline allergens, the EKO GEL[®] 'as is' and propylene glycol in Finn Chambers[®] on Scanpor[®] tape (SmartPractice, Phoenix, AZ, USA) were performed according to the department's routine procedure, with readings being performed on D3 and D7. Patch tests showed positive reactions to nickel sulfate 200 µg/cm² (+/+), without current clinical relevance, EKO GEL[®] as is (+/+++), methylchloroisothiazolinone/MI 4 µg/cm² (++/+), and MI 0.2% aq. (+++/+++). A repeated open application test with the EKO GEL[®] gave a positive result after three applications. As patch tests gave negative results with the declared ingredients in the EKO GEL[®], we contacted the company, who informed us that the EKO

GEL[®] did contain MI in a concentration below 0.5%. The dermatitis healed after replacement of the ultrasound gel with a product without MI. The primary sensitizer was not identified in our case, but might be the EKO GEL[®], owing to the long duration of exposure.

Comments

Allergic contact dermatitis caused by ultrasound gels is rare, and most cases have been associated with propylene glycol, methyldibromo glutaronitrile, methyl paraben, propyl paraben, imidazolidinyl urea, and methylchloroisothiazolinone/MI (4–7). Contact dermatitis in the previously published cases was seen only in people who had undergone ultrasound therapy or diagnostic procedures, and not as occupational contact dermatitis. The message here is that MI may be present in medical devices without being labelled, showing that material safety data sheets may not reveal the most important information regarding the content of allergenic ingredients, which is a problem for both patients and clinicians (8). Direct contact with the manufacturer may be helpful.

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