

Chronic areolar dermatitis due to methylisothiazolinone-containing bodywash

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The use of methylisothiazolinone (MI) as a preservative in cosmetic products is well established and is increasing. We present a case of chronic areolar dermatitis due to an MI-containing bodywash.

A 27-year old man with atopic dermatitis (AD) presented to the Contact Dermatitis Institute (Phoenix, AZ, USA) with a 5-year history of pruritic axillary and areolar dermatitis. He had been treated previously by three separate physicians, with minimal improvement. The patient had initially presented to his dermatologist with pruritic dermatitis on his right areola and axilla, which had been diagnosed with irritant contact dermatitis and treated with 0.1% triamcinolone cream. Eight months later, the patient returned with worsening bilateral axillary dermatitis and weeping areolar dermatitis. This presentation was attributed to chronic AD, and the patient was prescribed 0.005% fluticasone cream and mupirocin without significant improvement. At follow-up, the serous discharge was cultured, and a 4-mm areolar punch biopsy was taken for further investigations. Cultures were negative, and biopsy showed chronic eosinophilic spongiosis consistent with eczematous dermatitis. Fourteen months later, the patient was seen by another dermatologist, who ordered ultrasonography breast imaging, metabolic and thyroid panels, serum vitamin D, complete blood count with differential, and sexually transmitted disease screening. All studies were within normal limits. Over-the-counter clotrimazole and homeopathic *Calendula officinalis* and *Mahonia aquifolium*-based ointments were recommended but did not improve the symptoms. Finally, the patient was referred to a general surgeon to rule out malignancy. Nipple discharge

was negative for dysplasia, and the surgeon recommended application of petrolatum. However, the patient's symptoms continued, and he then referred himself to us.

We carried out patch testing, which was performed with T.R.U.E. Test[®] (SmartPractice, Phoenix, AZ, USA). At 48 h, the reaction to methylchloroisothiazolinone (MCI)/MI was + and at 72 h, it was ++. There were no other positive reactions. After extensive investigation of the patient's exposure, it was discovered that the patient's daily bodywash, Dove[®] Bodywash for Sensitive Skin (Unilever, London, UK), which he had carefully selected because he perceived it to be beneficial for his AD, contained methylisothiazolinone. The patient reported using this bodywash daily. The patient was diagnosed with allergic contact dermatitis (ACD), discontinued use of the bodywash, avoided other MCI/MI-containing products, and was symptom-free at the 6-month and 12-month follow-ups.

To our knowledge, this is the first case of chronic nipple and areolar ACD resulting from recurrent full-body cutaneous allergen exposure. Interestingly, it is well described that there is decreased epidermal barrier function in the areolae of atopic men.¹ Furthermore, the patient exercised daily wearing a tight shirt, and thus his ACE distribution was probably facilitated by 'jogger's nipple', which is chronic mechanical irritation of the nipple, preferentially decreasing the skin barrier function and exacerbating ACD in this distribution. AD is known to favour the nipple, and was considered a possible primary diagnosis, potentially worsened by the consistent hapten exposure. However, the clinical course and rapid resolution after the patient ceased using the MI-containing bodywash suggests ACD over AD as his diagnosis.

MI ACD is a new worldwide epidemic.² Originally seen only in occupational settings, consumer exposure to MI through cosmetics is becoming increasingly common.³ Unfortunately, many dermatologists who do not use patch testing fail to accurately identify

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atypical presentations of ACD. Our patient spent more than US\$1300 on visits and diagnostic tests before patch testing was performed, and was caused unnecessary emotional distress before his dermatitis was appropriately addressed. Dermatologists need a lower threshold to patch test patients with chronic eczematous dermatitis in atypical distributions.

In conclusion, we present a novel case of allergic contact dermatitis to MI manifesting as chronic axillary and areolar dermatitis after recurrent full-body cutaneous exposure to an MI-containing bodywash.

References

- 1 Kikuchi K, Tagami H, Akaraphanth R, Aiba S. Functional analyses of the skin surface of the areola mammae: comparison between healthy adult male and female subjects and between healthy individuals and patients with atopic dermatitis. *Br J Dermatol* 2011; **164**: 97–102.
- 2 The methylisothiazolinone epidemic: is the fire out or is Rome still burning? *Contact Dermatitis* 2014; **70**: 67–8.
- 3 Castanedo-Tardana MP, Zug KA. Methylisothiazolinone. *Dermatitis* 2013; **24**: 2–6.