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Peristomal allergic contact dermatitis caused by stoma adhesive paste containing *N*-butyl monoester of polymethyl vinyl ether maleic acid

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Peristomal dermatitis is the most common complication in ostomy patients, and, according to the literature, may occur in 37–80% of these (1), mostly in terms of irritant dermatitis, but also in terms of allergic contact dermatitis. In this situation, patch testing is a useful tool for identifying the cause of contact allergy and advising the patient which products are safe to use.

Case Report

An 82-year-old non-atopic urostomy patient presented with a 2-year history of peristomal superficial ulcerations (Fig. 1), recently accompanied by eczematous lesions. He had been using Stomahesive paste® (ConvaTec, Skillman, NJ, USA) and Opsite Flexifix adhesive plaster® (Smith & Nephew, London, UK) to secure the stoma device.

Patch testing was performed with a European baseline series and a series of stoma adhesive pastes (tested 'as is'), with IQ Ultra Chambers® (Chemotechnique Diagnostics, Vellinge, Sweden). The patch tests were applied to the upper back, and occluded for 2 days. Readings were performed on day (D)2 and D4, according to the ICDRG scoring system. There were 2+ reactions to Stomahesive paste® (ConvaTec), Adapt paste® (Hollister Ltd, Libertyville, IL, USA), Ostomy paste® (Coloplast, Humlebæk, Denmark), and Salts ostomate stoma paste® (Eurotec, Colombia, MD, USA) (Fig. 2). However, Brava paste no alcohol® (Coloplast) gave a negative test result.

The patient was advised to avoid contact with all stoma adhesive pastes, with the exception of Brava



Fig. 1. Peristomal superficial ulcerations and eczema.

paste no alcohol®, upon which his eczematous lesions disappeared.

After the manufacturers had been contacted, the patient was patch tested with *N*-butyl monoester of polymethyl vinyl ether maleic acid resin diluted with butanol (concentration not specified) (Gantrez ES-425®, kindly provided by Ashland, Schaffhausen, Switzerland) at 10% and 50% in pet., and 'as is'; this resulted in a 1+ reaction to the 50% dilution and the substance tested 'as is' on D2 and D4, and a +? reaction to the 10% dilution on D4. Twenty control subjects did not react to the 50% dilution of this material.

Discussion

Skin disorders at ostomy sites are common; however, contact allergy is a relatively infrequent cause of peristomal dermatitis, with, to our knowledge, 42 cases

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Fig. 2. Positive patch test reactions to all pastes except for Brava paste no alcohol® (Coloplast).

having been reported since 1978 (2–8). The allergens involved were: epoxy resin (bisphenol A type), lanolin, rubber materials, fragrance components in deodorizers, benzotriazole (used as an ultraviolet absorber) in a laminated vinyl bag, a karaya sealing ring, dihydroabietyl alcohol (Abitol®), isopropyl alcohol, propylene glycol, polyisobutylene, methylisothiazolinone, dipentene, and Gantrez® (Ashland Inc., Covington, KY, USA), i.e., the same resin as in our case.

Our patient developed allergic contact dermatitis caused by Stomahesive paste®, but patch testing also showed contact allergy to several other pastes, except to Brava paste no alcohol®. The respective manufacturers were contacted, and kindly supplied information on the qualitative composition of the pastes. Comparison of the ingredients showed that the allergenic culprit common

to all pastes eliciting positive patch test reactions was Gantrez ES-425®. This compound is not present in Brava paste no alcohol®, which is based on a styrene–isoprene block copolymer.

Gantrez ES-425® (N-butyl monoester of polymethyl vinyl ether maleic acid diluted with butanol) is used in stoma adhesive pastes to increase shear strength and improve adhesion of the stoma equipment by creating a highly polar film. Four other cases of allergic contact dermatitis caused by this material have been reported in the literature (5–8). It is also used in a variety of other products, such as hair styling foams, mouthwashes, toothpastes, and denture fixatives (INCI name: butyl ester of PVM/MA copolymer). In our case, however, the patient had been using stoma adhesive paste for 2 months before the eczematous reaction occurred, and had, in all likelihood, been sensitized by this route.

As epoxy resins do not seem to be used so often nowadays in stoma adhesive pastes, Gantrez® is currently the leading cause of peristomal allergic contact dermatitis. It is therefore recommended to patch test with it when peristomal allergic contact dermatitis is suspected; adhesives can be tested 'as is', preferably first with a semi-open test (9); if the result of this is negative, a patch test can be performed.

Last, but not least, we here again encountered the frustration of medical devices not being labelled!

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