

Allergic contact dermatitis caused by a catheter system containing sodium metabisulfite

Ella Grosch and Vera Mahler

Department of Dermatology, University Hospital Erlangen, 91054 Erlangen, Germany

doi:10.1111/cod.12675

Key words: allergic contact dermatitis; case report; catheter; medical device; neo bladder; sodium metabisulfite; sterile gel.

The use of innovative medical devices has increased because of rapid medical progress. We report a patient who developed allergic contact dermatitis caused by a catheter system for intermittent self-catheterization containing sodium metabisulfite (SMB).

Case Report

A 68-year-old woman presented with a history of periumbilical eczema for several months. Because of bladder cancer, she had undergone radical cystectomy and construction of a neo bladder. For 2 months, a catheter

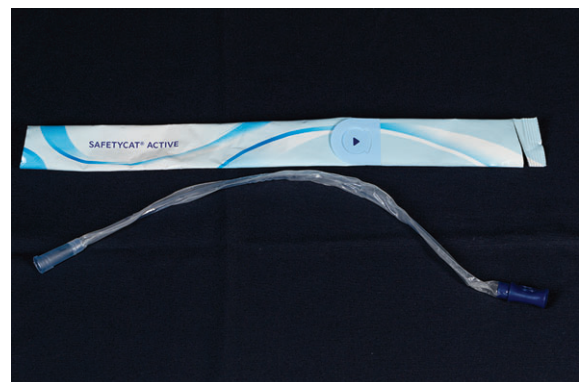


Fig. 1. Catheter system Safetycat® active. Right: catheter tip. Left: connector for urine pouch.

system (Safetycat® active; Teleflex Medical GmbH, Kernen, Germany) (Fig. 1), which contains a catheter and sterile gel, was introduced several times per day into the

Correspondence: Ella Grosch, Department of Dermatology, University Hospital Erlangen, Ulmenweg 18, 91054 Erlangen, Germany. Tel: +49 9131 8545824; Fax: +49 9131 8532724.

E-mail: ella.grosch@uk-erlangen.de

Conflicts of interest: E. Grosch and V. Mahler declare no conflict of interests.

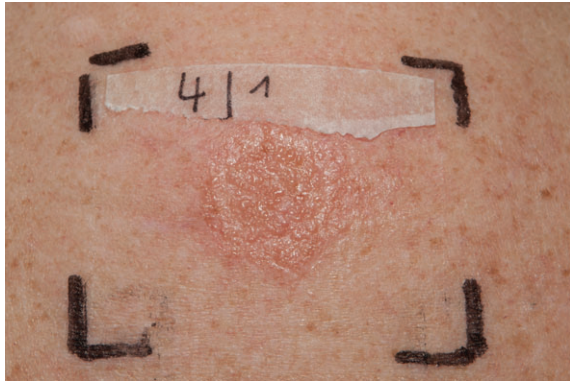


Fig. 2. Positive patch test reaction to sodium metabisulfite 1% pet.

neo bladder through the umbilicus to drain out urine. Before each catheterization, the umbilicus was disinfected with Octenisept® (Octenidin; Schülke & Mayr, Norderstedt, Germany).

Patch testing was performed with the German baseline series, a topical ointment series, a preservative series, a disinfection series, a rubber series, and the patient's own products (catheter, sterile gel, and Octenisept® 'as is'), according to the recommendations of the German patch test guideline (1). Commercial patch test allergens were purchased from SmartPractice® Germany (Barsbüttel, Germany) and Chemotechnique Diagnostics (Vellinge, Sweden). The patch test was applied to the back in Finn Chambers® on Scanpor® tape (SmartPractice® Germany). Readings were performed on day (D) 3 and D4.

The results showed positive reactions (+) to the tested catheter part covered with remnants of the gel, and to the gel, but not to the catheter material without the gel

coating. According to information supplied by the manufacturer, the catheter consists of polyvinyl chloride and the gel of water, glycerol, carbomer, sodium-polyacrylate, 1,2-propylene glycol, copolymer of methyl vinyl ether and maleic anhydride (PVM/MA copolymer), methyl paraben, propyl paraben, and SMB.

1,2-Propylene glycol and parabens caused no contact allergic reactions in the patch tests with the baseline series and preservative series, respectively. Subsequently, a patch test was performed with SMB (1% pet.), not contained in the previously tested series, which gave a positive reaction (Fig. 2). The patch test results supported the diagnosis of allergic contact dermatitis caused by SMB, resulting from daily use of the catheter system Safetycat® active.

Discussion

In the past, contact allergy to SMB was reported repeatedly in the literature (2–4), mainly caused by the use of local anaesthetics, eye drops, topical ketoconazole, topical corticosteroids, haemorrhoidal ointments, and cosmetics (5). However, at present in Germany, SMB is only rarely used: it no longer listed among medical ointments in the German red list of medicinal products (5). Therefore, until recently, SMB (1% pet.) was tested exclusively in the ophthalmic series of the German Contact Dermatitis Society, and it will be included in the 'monitor series' in autumn 2016.

To our knowledge, this is the first report of contact allergy to SMB in a catheter system. Given their widespread use, it is important to highlight the potential risk of allergic reactions caused by sulfites in medical devices.

References

- 1 Schnuch A, Aberer W, Agathos M et al. Patch testing with contact allergens. *J Dtsch Dermatol Ges* 2008; **6**: 770–775.
- 2 García-Gavín J, Parente J, Goossens A. Allergic contact dermatitis caused by sodium metabisulfite: a challenging allergen. A case series and literature review. *Contact Dermatitis* 2012; **67**: 260–269.
- 3 Ralph N, Verma S, Merry S et al. What is the relevance of contact allergy to sodium metabisulfite and which concentration of the allergen should we use? *Dermatitis* 2015; **26**: 162–165.
- 4 Madan V, Beck M. Sodium metabisulfite – a contact allergen? *Contact Dermatitis* 2009; **61**: 58.
- 5 Mahler V, Haeberle M, Geier J. Contact allergy to sulphite compounds: clinical and occupational relevance. *Allergol J Int* 2016 In press.