

Short Communication

‘Lucky Luke’ contact dermatitis due to rubber components of diapers

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Case Reports

6 boys and 2 girls, aged 9 months to 4 years, presented with a particular type of diaper dermatitis between April 1996 and October 1997. All had atopic dermatitis, none had asthma. The eczema was predominantly located on



Fig. 1. Eczema with predominant location on the outer buttocks.



Fig. 2. Particular distribution of eczema recalling a cowboy's gunbelt holster.

the outer buttocks and hips (Figs. 1, 2). Pruritus was constant.

Patch tests with a restricted European standard series, augmented with some common environmental aero-allergens, were performed in all patients, as well as tests with various samples of the diapers. In 5 cases, latex was prick tested, with a reading at 10 min. All 8 children had positive reactions to rubber components of the diapers at D2 (and at D3 in 2). 3 different brands of disposable diapers were positive. Furthermore, sensitization to mercaptobenzothiazole (MBT) and to para-tertiary-butylphenol-formaldehyde resin was found in 2 and 3 cases, respectively. Latex prick tests were negative (Table 1). Avoiding the material that had been identified was sufficient to improve their symptoms.

Discussion

Over recent years, allergic contact dermatitis in children has repeatedly been reported as a significant clinical problem (1–3). Most authors have found that standard allergen concentrations used in adults can also be em-

Table 1. Patch and prick test results

Case no.	Sex	Age	Patch tests		Prick latex
			standard	diapers	
1	M	20 months	<i>D.p.</i> +	+	–
2	M	4 years	–	+	NT
3	M	11 months	PTBP+ <i>D.p.</i> , <i>D.f.</i> + dog, cat +	++	–
4	M	3 years	PTBP++ fragrance++	++	NT
5	F	2 years	MBT+++ <i>D.p.</i> ++	+++	–
6	M	14 months	<i>D.p.</i> , <i>D.f.</i> + dog +	++	–
7	M	2 years	MBT+	+	NT
8	F	9 months	PTBP++ <i>D.p.</i> ++	‘angry back’ D2 ++ D3	–

D.P.: *D. pteronyssinus*; *D.F.*: *D. farinae*.

PTBP: para-tertiarybutyl-phenol-formaldehyde resin 1% pet.

MBT: mercaptobenzothiazole 2% pet.

ployed in children (2–3). This particular type of diaper dermatitis, reminiscent of a cowboy's gunbelt holsters (hence 'Lucky Luke'), is due to rubber components of diapers produced by at least 3 different manufacturers, and quite distinct from other diaper rashes (4). No sensitization to latex or paper components was found (5–6).

Rubber components are one of the most common sensitizers in children, along with metals and fragrance (2–3). This particular dermatitis can tentatively be explained by the use of diapers in toddlers and their new anti-leaking system. This system maintains elastic bands tight on the thighs. Usually, the diaper area is spared in infants with atopic dermatitis, probably due to enhancement of the skin barrier due to diapers. However, children with atopic dermatitis are still at risk of allergic and irritant contact dermatitis (7).

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