



## Healthy infant with a blistering rash

The parents denied any environmental exposures and said that the child hadn't had contact with anyone with a similar rash. The distribution of the rash was revealing.

A 4-MONTH-OLD GIRL was brought to our clinic with a 4-week history of blisters on her arms and legs. The eruption started on her right posterior and lateral calf and then appeared on her left calf and bilateral elbows. Other than the blisters, the girl appeared well and was eating and growing normally. Her parents said she had not been in contact with anyone with a similar rash or itching. They also denied recent outdoor activities, camping trips, or environmental exposures.

The child had been previously treated with topical and oral steroids and oral anti-

biotics by a pediatrician, but the rash barely improved. On physical examination, she was afebrile with well-demarcated erythematous papules and plaques with bullae, and erosions with honey-colored crusts. The rash was distributed symmetrically on the bilateral posterior and lateral lower legs and lateral upper arms (FIGURE).

- WHAT IS YOUR DIAGNOSIS?
- HOW WOULD YOU TREAT THIS PATIENT?

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**FIGURE**

**Symmetric erythematous plaques with overlying vesicles on the posterior calves**

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➤ The distribution of car seat dermatitis typically involves areas in direct contact with the car seat, such as the elbows, upper lateral or posterior thighs, and lower lateral legs.

### Diagnosis: Allergic contact dermatitis from a car seat

The appearance and distribution of the rash on the infant's posterior and lateral lower legs and lateral upper arms prompted us to conclude that this was a case of allergic contact dermatitis from a car seat, along with secondary impetiginization.

The incidence of car seat contact dermatitis is unknown, although it is suspected to be both under-recognized and under-reported. In fact, the number of cases may be on the rise,<sup>1</sup> given the increasing number of synthetic liners now being used in car seats, high chairs, and other infant support products.

#### ■ More common in summer months.

Car seat dermatitis is commonly reported in warmer months, when an infant's skin is more likely to be in direct contact with the car seat and sweating is increased.<sup>1</sup> In the acute setting, clinical morphology usually takes the form of inflamed papules or vesicles, while in chronic presentations, lichenified eczematous plaques may be seen. Distribution is typically symmetric and involves areas in direct contact with the car seat, such as the elbows, upper lateral or posterior thighs, lower lateral legs, and sometimes, the occipital scalp.<sup>1</sup> The presence of a secondary infection or autoeczematization can complicate the clinical presentation.

■ **Which car seat materials are to blame?** Previous reports have described the shiny, nylon-like material overlying the car seat cushion as the cause of the contact allergy, but no specific allergens have yet been identified.<sup>1</sup> Attempts at identifying specific allergens in car seat liners have been thwarted by the proprietary nature of manufacturers' formulas and the unwillingness of companies to divulge the chemicals used in the manufacture of their car seats. Potential allergens include bromine, chlorine, and flame-retardants.<sup>1</sup> These allergens differ from the usual contact allergens in children and adolescents, which include nickel sulfate, cobalt chloride, potassium dichromate, fragrance mix, thimerosal, neomycin sulfate, and para-tertiary-butylphenol formaldehyde resin.<sup>2</sup>

#### Differential includes other conditions with blisters, plaques

The differential diagnosis includes eczema

herpeticum, bullous impetigo, and psoriasis.

■ **Infants with eczema herpeticum** usually have eczematous plaques in locations such as the cheeks, neck, antecubital fossa, popliteal fossa, and ankles, with numerous "punched-out" shallow erosions. Children with extensive eczema herpeticum can be systemically ill.

■ **Bullous impetigo** is seen as flaccid bullae in infants, which can easily rupture and leave behind superficial erosions. These blisters tend to appear on normal skin. (This is quite different from the thick, erythematous plaques seen in contact dermatitis.) In patients with superficial erosions, a polymerase chain reaction test for the herpes virus and a bacterial culture should be obtained.

■ **Psoriasis** often presents with well-demarcated erythematous plaques with overlying silver scale. Although it can be symmetric on extensor surfaces, the weeping vesicles with acute onset that were seen in this case would be unusual.

■ **Look for a pattern.** The well-demarcated symmetric plaques corresponding directly to areas in contact with the car seat should be a strong clue for contact dermatitis. While patch testing for relevant chemicals is often indicated in patients for whom there is a clinical suspicion of a contact allergy,<sup>3,4</sup> we did not perform such testing because the specific chemicals involved in car seat manufacturing are unknown.

#### Topical steroids and avoidance of the allergen help resolve the rash

The mainstay of treatment for allergic contact dermatitis is avoiding the contact allergen. In car seat contact dermatitis, parents should be counseled to avoid contact between the child's bare skin and the car seat liner. Given that the precise allergen is unknown, it is impossible to know if a new car seat would contain the same material. Instead, we recommend covering the car seat with a cotton blanket to avoid irritation/allergens.

Depending on the extent of the rash, the patient should be treated with a mid- or high-potency topical steroid until the erythema and blistering resolve.<sup>5-8</sup> A 3-week prednisone taper can also be considered for severe

cases. For patients who have >25% of their body surface involved, oral steroids are recommended.<sup>6</sup> Any secondary infection should be treated with topical and oral antibiotics, as appropriate.

**■ Our patient.** Due to the extent and severity of the eruption, we put the patient on a 3-week oral prednisone taper and advised the parents to apply clobetasol 0.05% ointment to the affected areas 2 times a day. We also prescribed a 7-day course of cephalexin 50 mg/kg divided in 3 doses a day and topical mupirocin ointment (to be applied 2 times a day) for the secondary impetiginization.

We advised the parents to use a cotton blanket over the baby's car seat to prevent further outbreaks. The eruption resolved within 2 months.

**JFP**

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