



Rash on eyebrows and periumbilical region

Our 8-year-old patient had recently gotten new glasses. This helped us to uncover the cause of the plaques on her eyebrows—and abdomen.

AN 8-YEAR-OLD GIRL was brought to her family physician's office (RU) because of a persistent rash on her lateral eyebrows and periumbilical region. The family indicated that she'd had the rash for more than 6 months. They also mentioned that the child had received a new pair of eyeglasses 8 months earlier. The child was otherwise in good health. The physical exami-

nation revealed erythematous scaling plaques near both lateral eyebrows and around the belly button (**FIGURES 1 AND 2**).

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

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FIGURE 1

Scaling plaque near 8-year-old girl's eyebrow



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FIGURE 2

Rash in the patient's periumbilical region



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The 5 most prevalent contact allergens are nickel, fragrance mix, neomycin, balsam of Peru, and thimerosal.

Diagnosis: Allergic contact dermatitis

We recognized that this was a case of allergic contact dermatitis (ACD), based on the clinical presentation. The distribution of the erythema, scale, and postinflammatory hyperpigmentation was highly suggestive of an ACD to nickel. In this case, the nickel in the patient's eyeglasses and the snaps found on her pants were the culprits.

The lichenification of the plaque near the umbilicus suggested that the dermatitis was not acute and that the patient had likely been scratching the area due to itching. The plaque near the patient's eye was actually in the shape of the metal on the inside of her glasses.

■ **Most prevalent contact allergens.** Patch testing data indicate that the 5 most prevalent contact allergens out of more than 3700 that are known are: nickel (14.3% of patients tested), fragrance mix (14%), the topical antibiotic neomycin (11.6%), balsam of Peru (used in some perfumes, toiletries, and pharmaceutical items) (10.4%), and the mercury-based vaccine preservative thimerosal (10.4%).¹

ACD is a delayed-type hypersensitivity reaction in which a foreign substance comes into contact with the skin and is linked to skin proteins forming an antigen complex that leads to sensitization. When the epidermis is re-exposed to the antigen, the sensitized T cells initiate an inflammatory cascade, leading to the skin changes seen in ACD.²

Silverberg et al reported that in 30 children with a personal history of umbilical or wrist dermatitis or a family history of nickel ACD, 100% demonstrated a positive reaction to nickel sulfate.³ Nickel continues to be used (and unregulated) in a wide range of products, including costume jewelry, piercing posts, belt buckles, eyeglasses, and personal electronics (eg, tablets, cell phones, and laptop computers).

■ **Making the diagnosis.** Contact dermatitis can sometimes be diagnosed clinically with a good history and physical exam. However, there are many cases in which patch testing is needed to find the offending allergens or confirm the suspicion regarding a specific allergen. The only convenient and ready-to-use patch test in the United States is the T.R.U.E. test.

The differential includes other superficial skin infections

ACD characteristically presents with eczematoid plaques that are primarily in the area(s) of cutaneous contact with an allergen. The condition typically appears within a few days of exposure.

The differential diagnosis for ACD includes cutaneous candidiasis, impetigo, plaque psoriasis, and seborrheic dermatitis.

■ **Cutaneous candidiasis** is a superficial infection of the skin with a candida species. It can present as beefy red erythematous plaques on the buttocks, lower abdomen, thighs, or in intertriginous areas or oral commissures. A hallmark sign is pinpoint pustulovesicular satellite lesions.

■ **Impetigo** is a superficial bacterial skin infection that presents with edema, erythema, tenderness on palpation, and possible purulent drainage. It appears as honey-colored crusts with erythema and occurs most often on the face—especially around a child's nose and mouth—but can occur anywhere on the head and body.

■ **Plaque psoriasis** presents as erythematous silver-scaled plaques on extensor surfaces, including the elbows and knees. Inverse psoriasis may present as erythema and maceration in intertriginous areas.

■ **Seborrheic dermatitis** appears as well-circumscribed greasy scale overlying erythematous skin. It is commonly found on the scalp, eyebrows, nasolabial folds, chest, face, and in the ear canals. It is thought to be an inflammatory reaction to *Malassezia furfur*.

Cool compresses, topical steroids can relieve symptoms

Patients with ACD should avoid the allergen that is causing the reaction. In cases of nickel ACD, the patient may cover the metal tab of their jeans with an iron-on patch or a few coats of clear nail polish. A better option is to buy jeans and pants that do not have nickel in the metal tab. (Levi's has removed nickel from their pants.) Cool compresses can soothe the symptoms of acute cases of ACD.⁴ Calamine and colloidal oatmeal baths may help to dry and soothe acute, oozing lesions. Localized acute ACD lesions respond best to mid-

potency (eg, 0.1% triamcinolone) to high-potency (eg, 0.05% clobetasol) topical steroids.⁴

On areas of thinner skin (eg, flexural surfaces, eyelids, face, anogenital region), lower-potency steroids such as desonide ointment can minimize the risk of skin atrophy.^{3,4} Be aware that some patients are actually allergic to topical steroids. This unfortunate situation can be diagnosed with patch testing.

■ **We recommended that our patient** get different glasses that were nickel-free. Fortunately, there are many frames for glasses that have no nickel in them. We also gave her advice on how to avoid the nickel that still exists in some pants. We gave her desonide

0.05% cream to apply to the affected area for symptomatic relief. **JFP**

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