Up Close

A Look at Three Dermatological Cases

by Benjamin Barankin, MD

Allergic Reaction

A woman presented to the clinic, concerned about a pruritic rash on her six-year-old son's abdomen. There was no other rash present, although he had keratosis pilaris on his extensor arms. There is a family history of atopy, but the child is otherwise healthy.

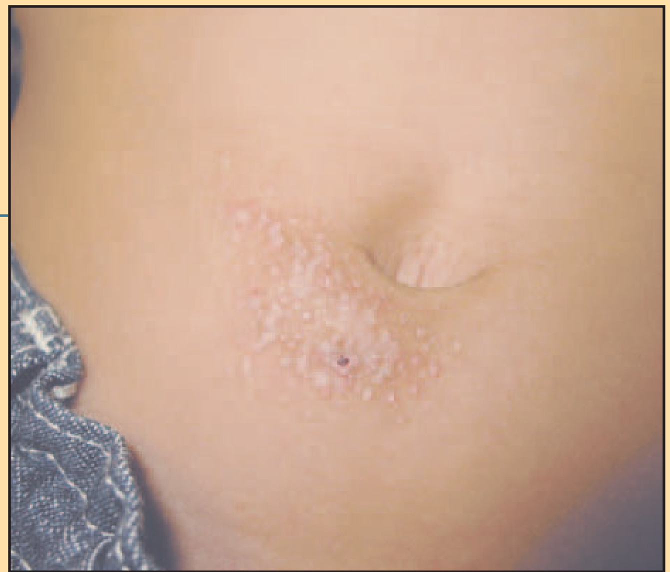


Figure 1. A reaction, on the abdomen, to allergic contact dermatitis to nickel.

What's the diagnosis?

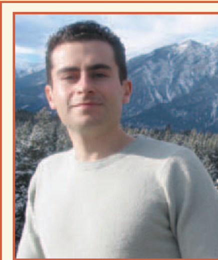
This child has an allergic contact dermatitis (ACD) to nickel.

Contact dermatitis (CD) can be a result of several factors (Table 1). Once diagnosed, most cases of CD are self-limited, or are easily treated.

ACD is a Type IV hypersensitivity reaction affecting previously sensitized individuals. The two distinct phases in a Type IV hypersensitivity reaction are the sensitization phase and the elicitation phase.

ACD affects approximately 20% of all children at some time, is twice as common in females as in males, and occurs more frequently in Caucasians, especially those with fair skin and red hair. Approximately 20% to 35% of healthy children react to one or more allergens on standard patch tests.

The morbidity from CD depends on its cause and the possibility of avoiding repeated or continued exposures. Some ubiquitous allergens, such as rubber or nickel, are impossible to avoid completely. Exposure can be reduced with careful instruction, but occult exposures may produce



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Up Close

Table 1
Contact dermatitis

Contact dermatitis can be a result of:

- Irritant contact dermatitis
- Allergic contact dermatitis
- Photo contact dermatitis
- Contact urticaria and contact reactions to pharmacologically active agents:
  - -poison ivy
  - -poison oak
  - -poison sumac
  - -stinging nettles

chronic or recurrent symptoms. Nickel is the most frequent contact allergen in females older than eight. Reactions to nickel sulphate, in one study, occurred in 16% of children.

Clinically, ACD is usually more severe and acute in onset than irritant contact dermatitis, and is often pruritic. Pruritic dermatitis of the ear lobes or near the umbilicus is almost always the result of nickel allergy.

Table 2
Clues via distribution

Allergic contact dermatitis to nickel:

Location	Allergic Contactant
Scalp & ears	shampoo, hair spray, hair dye, earrings, eyeglasses
Eyelids	nail polish, cosmetics, sport-goggles
Face	cosmetics, sunscreen, perfumes
Lips	lip balms, lipstick, toothpaste, food
Neck	necklaces, perfumes, aftershave lotion
Trunk	sunscreens, clothing, metal belt or buckle, elastic waistband
Axillae	deodorant (axillary vault), clothing (axillary folds)
Hands	soaps and detergents, foods, cement, gloves, poison ivy, solvents
Wrists	hand contactants, watch, watch band, bracelets
Genitals	poison ivy, condoms
Legs	dye in socks, topical medications (*e.g.*, lanolin, benzocaine)
Feet	rubber, leather, glues, dyes, topical medications

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ACD can be acute (bright red skin, edema, vesicles), subacute (less edema and erythema, minimal vesiculation or serous drainage, and excoriations), or chronic (scaling, fissuring, lichenification, mild erythema, and excoriations).

Diagnosis is usually determined by a good history and physical examination, and patch testing may suggest or confirm the etiologic agent in ACD. Biopsies are of little diagnostic help in CD.

Once the correct diagnosis has been established, many patients improve with adequate hygiene and avoidance of the contactant. Many cases of localized mild CD respond well to cool compresses (with isotonic sodium chloride solution or Burow's solution), and adequate wound care. Usually, mid-potent topical steroids, applied twice daily for one to two weeks, are effective for treating small areas of moderate allergic CD. Antihistamines, such as hydroxyzine (Atarax®) or diphenhydramine (Benadryl®), can be useful in cases of severe pruritus and poor sleep. CME

Winner!

The Canadian Journal of CME is sending Dr. Gerry Bally to St. Vincent and the Grenadines.

Dr. Bally is a family physician who has practiced in Ottawa, Ontario for 20 years. He divides his professional work between family practice and government health administration. His medical practice focuses on care of people with infectious diseases, chronic diseases and counselling. Dr. Bally enjoys travel, but since moving to rural Kanata in 2001, he has not had many opportunities. This holiday to St. Vincent and the Grenadines is a great and welcome surprise.

Dr. Gerry Bally